3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five

Year	2018-19	2017-18	2016-17	2015-16	2014-15
No.	59	37	92	62	26

Book Chapter

2018-19

Sl. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Y Sowjanya	Programming for PROBLEM SOLVING	NA	NA	NA	National / international	2018-2019	978-938-66-6802-8	Bharat Institute of Engineering and Technology	Cengage Learning

2	Dr. B. Praveen Kumar	Design Frameworks for Wireless Networks	Integrated Probabilistic Relevancy Classification (PRC) Scheme for Intrusion Detection in SCADA Network	NA	NA	INTERNATIONAL	2018-2019	978-981-13-9573-4	Bharat Institute of Engineering and Technology	Lecture Notes in Networks and Systems
3	Bandan Bhoi; Neeraj Kumar Misra,Ipsita Das,Ankita Patra	Smart Intelligent Computing and Applications	A Redundant Adder Architecture in Ternary Quantum-dot cellular automata	Smart Innovation, Systems and Technologies book series (SIST, volume 159)	Smart Innovation, Systems and Technologies book series (SIST, volume 159)	International	2018-2019	978-981-13-9282-5	Bharat Institute of Engineering and Technology	Springer, Singapore
4	Bandan Kumar Bhoi, Tusarjyoti Das, Neeraj Kumar Misra	Lecture Notes in Electrical Engineering book series (LNEE, volume 524)	An Explicit Cell-Based Nesting Robust Architecture and Analysis of Full Adder	Recent Trends in Communication, Computing, and Electronics pp 547-555	International conference on Emerging Trends in Communication Computing and	INTERNATIONAL	2018-2019	978-981-13-2684-4	Bharat Institute of Engineering and Technology	Springer, Singapore

					Electronics(IC3E-2018)					
5	Bandan Kumar Bhoi, Neeraj Kumar Misra, Shailesh Singh Chouhan, Sarthak Acharya	Communications in Computer and Information Science book series (CCIS, volume 1066)	Analyzing Design Parameters of Nano-Magnetic Technology Based Converter Circuit	International Symposium on VLSI Design and Test	International Symposium on VLSI Design and Test VDAT-2019	INTERNATIONAL	2018-2019	978-981-32-9767-8	Bharat Institute of Engineering and Technology	Springer, Singapore
6	G. Kumaraswamy RaoEmail authorM. Madhavi Latha	Advances in Decision Sciences, Image Processing, Security and Computer Vision	Protection Against IED (Improvised Explosive Device) a Dreaded and Fearful Weapon of Terrorist – Problems, Solutions and Challenges	Advances in Decision Sciences, Image Processing, Security and Computer Vision. Learning and Analytics in Intelligent Systems,	international conference on emerging, Trends in engineering (ICETE)	INTERNATIONAL	2018-2019	978-3-030-24318-0	Bharat Institute of Engineering and Technology	Springer, Cham

				vol 4. Springer, Cham						

Conference
2018-19

Sl. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Bharathi Anantha, Osmania University, India; Lakshminarayana Merugu,	NA	Dual-band Rectangular Dielectric Resonator Antenna	Dielectric Resonator Antennas	2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting,7-12 July 2019 • Atlanta,	international	2018-2019	18996191	Bharat Institute of Engineering and Technology	IEEE

					Georgia, U.S.A					
2	Arshiya Sultana	NA	Perception of Accounting Professionals towards leases (AS-116) Evidence	International journal of Advance and Innovative Research	International conference on Innovative practices in research in transdisciplinary areas	Internatio nal	2018-2019	2394-7780	Bharat Institute of Engineering and Technology	Indian Academicians and Research Association
3	Fouzia Begum	NA	Perceptions investor's behavior towards various investment avenues at Hyderabad metro city- An Empirical study	International journal of Advance and Innovative Research	International conference on Innovative practices in research in transdisciplinary areas	Internatio nal	2018-2019	2394-7780	Bharat Institute of Engineering and Technology	Indian Academicians and Research Association
4	K . Mamatha & Dr. V B Devi Bala	NA	Study of Select Public& Private Bank in Hyderabad	International journal of Advance and Innovative Research	International conference on Innovative practices in research in transdisciplinary areas	Internatio nal	2018-2019	2394-7780	Bharat Institute of Engineering and Technology	Indian Academicians and Research Association

5	Dr. Sathyanaray ana & G. Harish	NA	Imapact of Micro Small & Medium Enterprise (MSMEs) on Employment Generation in Andhra Pradesh,India	International journal of Advance and Innovative Research	International conference on Innovative practices in research in transdisciplin ary areas	Internatio nal	2018-2019	2394-7780	Bharat Institute of Engineer ing and Technol ogy	Indian Academici ans and Research Associatio n
6	Dr. Nishant Yadav	NA	Why we hate to love concrete	Proceedings of National conference on Fast Emerging Trends in Engineering and Technology	National conference on Fast Emerging Trends in Engineering and Technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineer ing and Technol ogy	Proceedin gs of National conferenc e on Fast Emerging Trends in Engineeri ng and Technolog y
7	Dr G Gayatri	NA	Quantitative Analysis of Water Samples Using Water Quality Indicators: A Case Study	National Conference on Fast Emerging Trends in Engineering and Technology	Fast Emerging Trends in Engineering and Technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineer ing and Technol ogy	NA

8	J. S. Soni	NA	Design and analysis of titanium air bottle	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
9	J. S. Soni	NA	Design and part programming of work head spindle by CNC turning centre	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
10	T. Dinesh Kumar,J. S. Soni	NA	Finite element analysis of high pressure titanium spherical pressure vessel	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

11	B. Suresh, J. S. Soni	NA	Design analysis of moulding tool for the preparation of FRP components	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
12	Vikas Maheshwari	NA	High speed VLSI global interconnect technology trends	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
13	J. S. Soni	NA	Design and analysis of composite radome	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

14	P. Lokesh, J. S. Soni	NA	Design and part programming of a missile rocket motor component by CNC turn-mill centre	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
15	Umesh kishore sharma, J. S. Soni	NA	Finite element analysis of rocket motor	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
16	K. Raju, J S. Soni	NA	Design aspects of welding fixture for nozzle casing assembly by tig welding	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

17	Manish Sharma, Ashok kumar	NA	Finite element analysis of pressure vessel	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
18	C. Jagadheesan	NA	Design and realisation of handling beam for rocket motor	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
19	C. S. Krishna Prasad Rao	NA	Design and development of solar cum manual pelletization plant for production of pellets from forest waste	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

20	A. Naveen Krishna, B. Thirupathi	NA	Analysis of the effect of trailing edge shape on the performance of a straight- blade vertical axis wind turbine	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
21	B. Mounika naidu, Dipesh Popli	NA	Design ofexperiments using Taguchi and orthogonal arrays for structural design	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
22	Anoop Joshi	NA	Design and analysis of deep drawing tool for aluminum cup	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

23	A. Harish Kumar	NA	Modelling, analysis and manufacturing of disc brake rotor using CAD/CAM software and CNC vertical machining center	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
24	M. Vidya sagar	NA	Effect of a particle size on tensile properties of polypropylene/flyash composites	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
25	Pradeep M. Chavan	NA	Study of manufacturing feasibility of wing panel	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

26	N. Rajashekhar, B. Ashwanth	NA	To study the effect of side rake angle on surface roughness, when machined with and without application of cutting fluid	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
27	B. Hemasunder, B. Thirupathi	NA	Study of welding characteristics of stainless steel using water plasma arc welding	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
28	Dipesh Popli	NA	Paper on a device to reduce pollutant particles (Emission control)	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

29	C. Anil Kumar Reddy	NA	Design and fabrication of seed sowing machine	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
30	K.Raj narayan, J. S. Soni	NA	Advance body amour and affordable protection for futuristic combat exosckeleton	Proceedings of national conference on fast emerging trends in engineering and technology	national conference on fast emerging trends in engineering and technology	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
31	Dr. Anita Bai	NA	Bidirectional visitor counter system based on IR	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

32	Dr. Anita Bai	NA	Wearable Technology For Healthcare	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
33	Dr. Anita Bai	NA	Data Security Assistance by Mobile Cloud Computing	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

34	Dr. Delshi Howsalya Devi	NA	Enabling Cloud Storage Auditing with Verifiable Outsourcing Of Key Updates	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
35	Dr. Delshi Howsalya Devi	NA	Accident And Alcohol Detection For Smart Helmets	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
36	R. Madana Mohana	NA	Lung Cancer Diagnosis using NN-Classifier through Image Processing	International	International Conference on Computational Intelligence	International	2018-2019	2277-3878	Bharat Institute of Engineering and Technol	NA

					and Data Engineering (ICCIDE-2019)				ogy	
37	R. Madana Mohana	NA	Performance Evaluation of machine learning Techniqueson RPASRemote sending imaging	International	4th International conference on Technical advancements in computer science and engineering (ICTACSE)	Internatio nal	2018-2019	978-93-83038-76-3, 2249 – 8958	Bharat Institute of Engineering and Technology	NA
38	P. Priya	NA	Semantic Indexing and concept based approach for effective information retrieval using Dbpedia	International	4th International conference on Technical advancements in computer science and engineering (ICTACSE)	Internatio nal	2018-2019	978-93-83038-76-3	Bharat Institute of Engineering and Technology	NA

39	Dr. Anita Bai	NA	Accident And Alcohol Detection For Smart Helmets	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
40	Dr. Anita Bai	NA	Enabling Cloud Storage Auditing with Verifiable Outsourcing Of Key Updates	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

41	Dr. Delshi Howsalya Devi	NA	Bidirectional visitor counter system based on IR	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
42	Shalini Jadala	NA	Analysis of Brand Popularity using Big Data and Social Media	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

43	G. Manohar	NA	SECURE OVER LARGE SCALE INFORMATION	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
44	Surendra Kalagara	NA	Load Balanced Psrtitioning of Data Space in Cloud Computing	National	National Conference on Fast Emerging Trends in Engineering and Technology (NCOFEET-2K19), 20th-21st Sep 2019	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

45	Farhana Bano, Rekha Andal	NA	Detectioion of Selfied nodes in networks Algorithm	1st National Conference on Innovative Technologies in Big Data, Cloud, Mobile and Security (ITBCMS-2016)	ITBCMS-2016	internatio nal	2018-2019	978-93-82829-58-4	Bharat Institute of Engineering and Technology	NA
46	Dr. J. Bhagwan Reddy	NA	Design of Roof top Solar Photovoltaic System	8 th world conference on Applied sciences, Engineering and management	8 th world conference on Applied sciences, Engineering and management	internatio nal	2018-2019	978-1-5090-3978-4	Bharat Institute of Engineering and Technology	NA
47	K. Srinivasarao	NA	Design of Roof top Solar Photovoltaic System	8 th world conference on Applied sciences, Engineering and management	8 th world conference on Applied sciences, Engineering and management	internatio nal	2018-2019	978-1-5090-3978-4	Bharat Institute of Engineering and Technology	NA

48	Dr.Arulprakash Andigoundar	NA	Smart Card Based E-Car Battery Charger	Proceedings of NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	Proceedings of NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
49	Ramji Tiwari	NA	RBFN Based Mppt Control With Quadratic Boost Converter For PV Applications	Proceedings of NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

50	N.Naga shekara Reddy	NA	DECOUPLED ACTIVE AND REACTIVE POWER CONTROL OF GRID CONNECTED DFIG	Proceedings of NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA
51	Dr. J. Bhagwan Reddy	NA	RELIABILITY ASSESMENT OF GRID CONNECTED SOLAR PHOTO VOLTAIC SYSTEM	Proceedings of NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	NATIONAL CONFERENCE ON FAST EMERGING TRENDS IN ENGINEERING AND TECHNOLOGY (NCOFEET-2K19)	National	2018-2019	978-93-82829-43-0	Bharat Institute of Engineering and Technology	NA

52	Mr. Muruga Perumal	NA	Techno Economic Analysis of Hybrid Renewable Electrification System in Different Climatic Zones	International Conference on Emerging Trends in Electrical, Communications, and information Technologies (Springer Lecture Notes in EE)	International Conference on Emerging Trends in Electrical, Communications, and information Technologies	International	2018-2019	978-981-13-8941-2	Bharat Institute of Engineering and Technology	Springer
53	Changalasetty, S.B., Belgacem, B., Badawy, A.S., Ghribi, W., Ahmed, A.M., Bangali, H., Thota, L.S.,	NA	Assessing the Relation between Family Background and Juvenile Delinquency using Data Mining	International Conference on Computer Communication and Informatics	International Conference on Computer Communication and Informatics	International	2018-2019	2329-7190	Bharat Institute of Engineering and Technology	IEEE

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- Glossary of Key Terms
- Addendum to Chapter 10

PROGRAMMING FOR PROBLEM SOLVING

BEHROUZ A. FOROUZAN | RICHARD F. GILBERG

Adapted by Dr L. SUMALATHA

CENGAGE

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  - Addendum to Chapter 16

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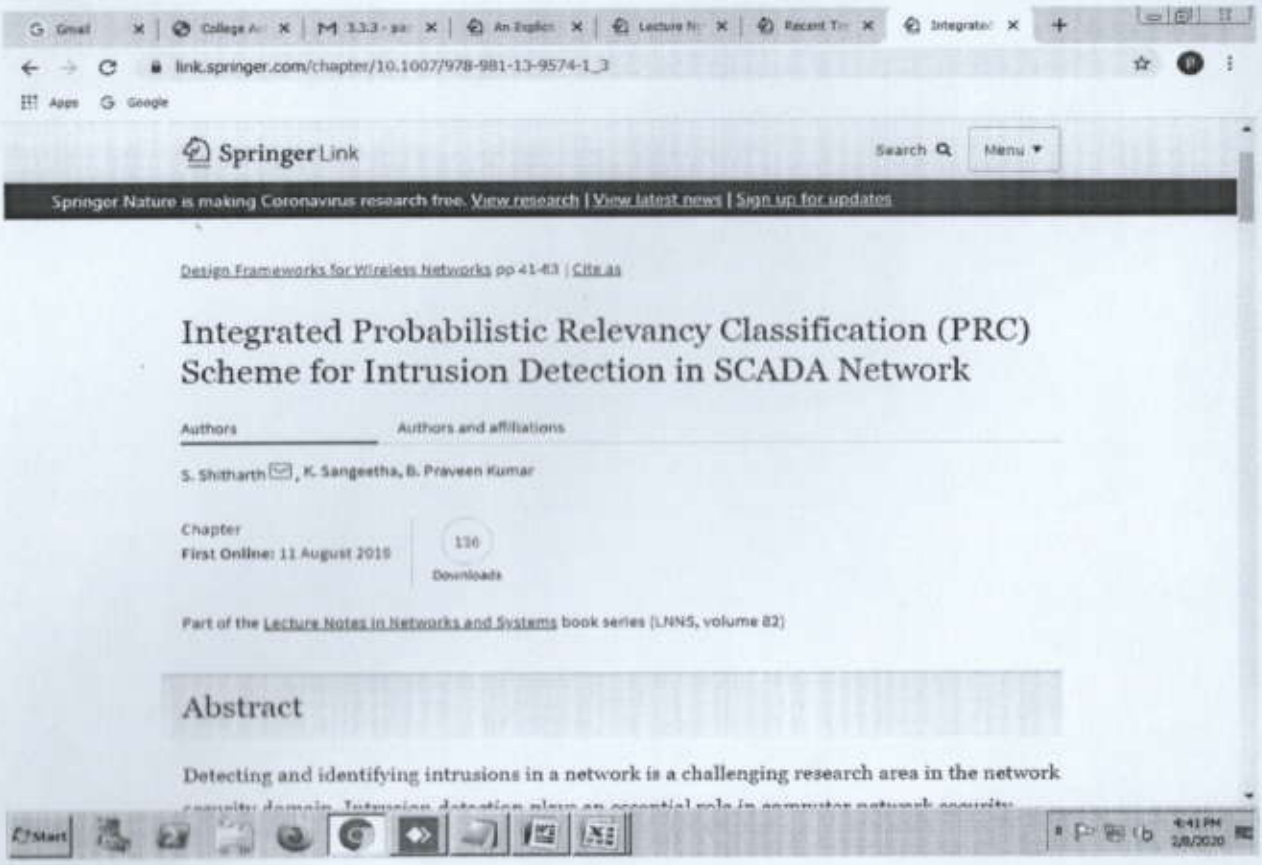

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Authors | Authors and affiliations

S. Shitharth, K. Sangeetha, B. Praveen Kumar

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Abstract

Detecting and identifying intrusions in a network is a challenging research area in the network

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Integrated Probabilistic Relevancy Classification (PRC) Scheme for Intrusion Detection in SCADA Network

S. Shitharth, K. Sangeetha and B. Praveen Kumar

Abstract Detecting and identifying intrusions in a network is a challenging research area in the network security domain. Intrusion detection plays an essential role in computer network security since long. An Intrusion Detection System (IDS) is mainly used to detect an unauthorized access to a computer system or network. Moreover, it is capable to detect all types of malicious and harmful attacks in a network. The drawbacks of existing IDS are it can detect only the known attacks and it produces a large number of false alarms due to the unpredictable behavior of users and networks. It also requires extensive training sets in order to characterize the normal behavior of the nodes. In order to overcome these issues, an integration of Hidden Markov Model (HMM)–Relevance Vector Machine (RVM) algorithm namely, Probabilistic Relevance Classification (PRC) is proposed to detect intrusions in Supervisory Control and Data Acquisition (SCADA) network. Here, the power system attack dataset is used to detect the attacks in an SCADA network. In the preprocessing stage, the given data is preprocessed to segregate the relays as R1, R2, R3n and R4. Each relay contains the date, timestamp, control panel log report, relay log report, snort log report, marker, fault location, and load condition information. Then, the Boyer—Moore (BM) technique is employed to perform the string matching operation. After that, the PRC technique is implemented to classify the attack as known or unknown. The novelty of this paper is it manually trains the data and features for unknown attacks. The main intention of this work is to reduce the set of features, amount of database, and to increase the detection rate. The experimental results evaluate

S. Shitharth (✉)
Department of CSE, Vardhaman College of Engineering, Hyderabad, India
e-mail: shitharth.it@gmail.com

K. Sangeetha
Sri Satya Sai University of Technology & Medical Sciences, Madhya Pradesh, India
e-mail: sange0391@gmail.com

B. Praveen Kumar
Bharat Institute of Engineering and Technology, Hyderabad, India
e-mail: praveenbala038@gmail.com

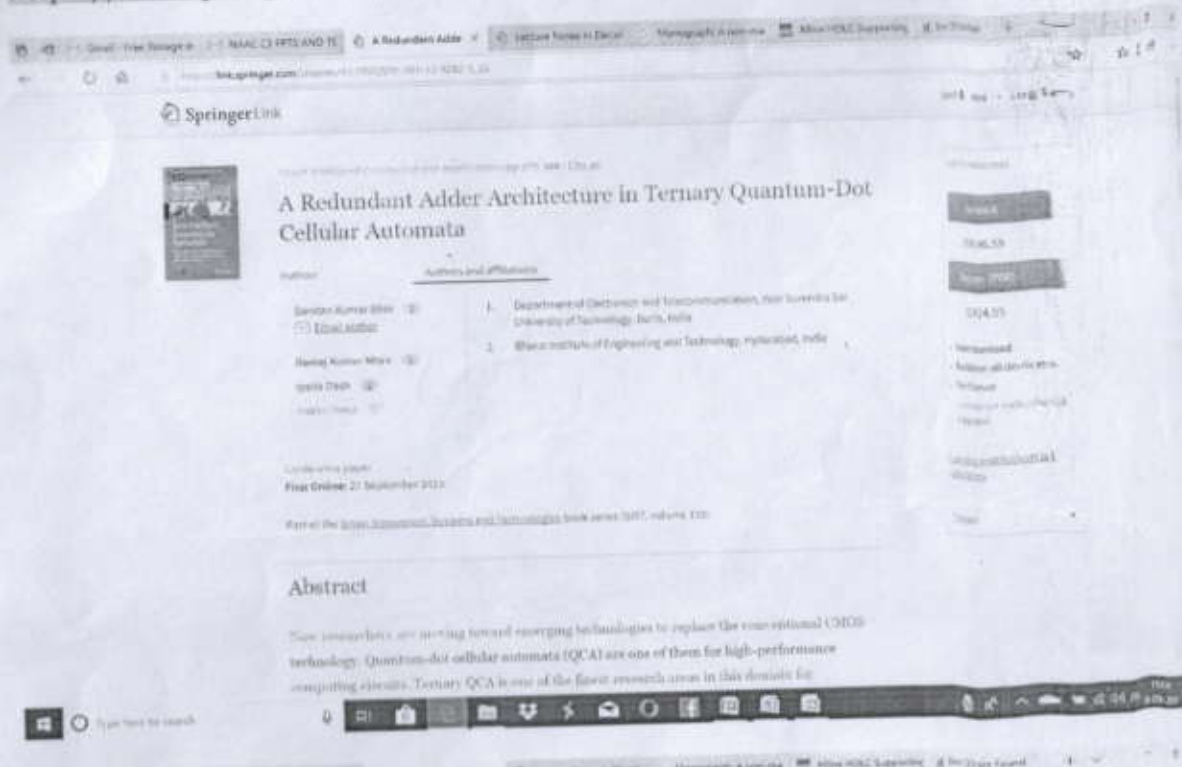
S. K. Das et al. (eds.), *Design Frameworks for Wireless Networks*,
Lecture Notes in Networks and Systems 82,
https://doi.org/10.1007/978-981-13-9574-1_3

BOOK CHAPTER

Book Chapter 1

A Redundant Adder Architecture in Ternary Quantum-dot cellular automata

https://link.springer.com/chapter/10.1007/978-981-13-9282-5_35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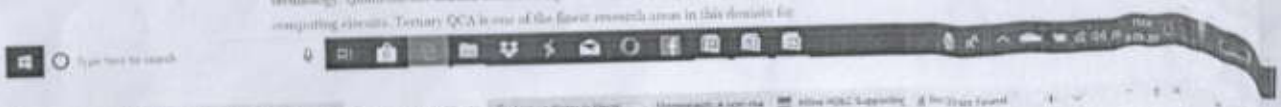
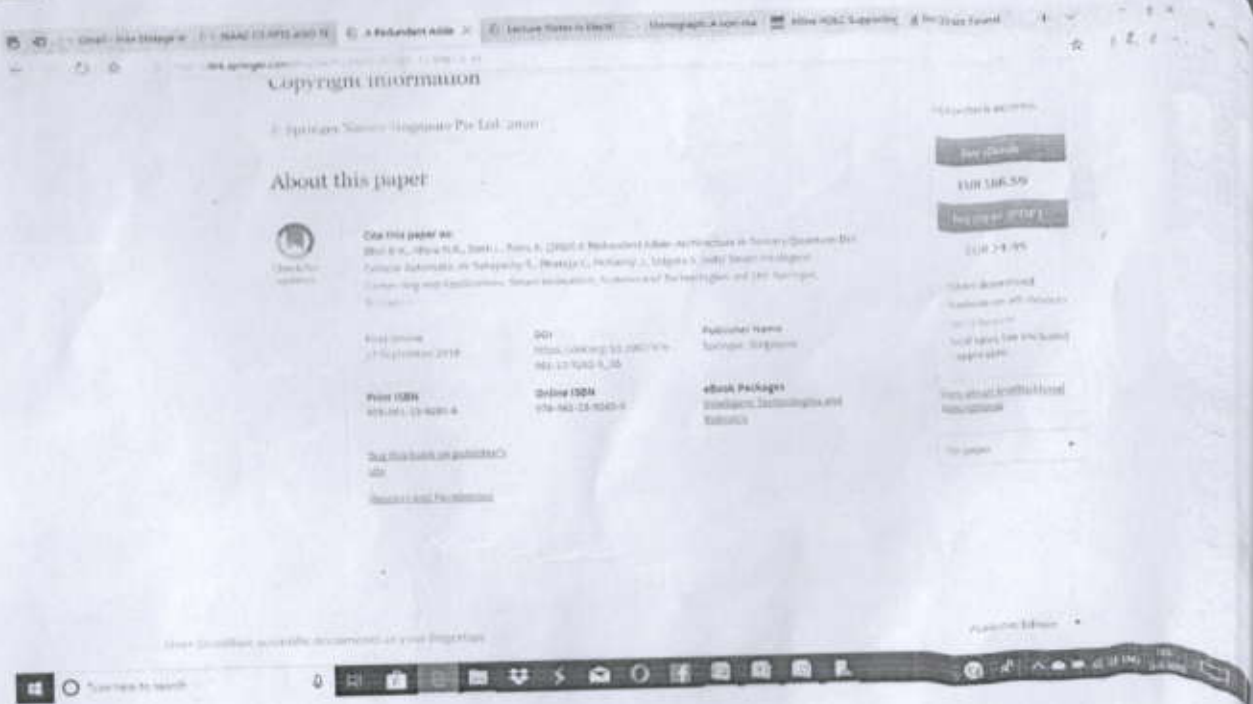
A Redundant Adder Architecture in Ternary Quantum-Dot Cellular Automata

Abstract

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Smart Innovation, Systems and Technologies 159

Suresh Chandra Satapathy
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Siba K. Udgata *Editors*

Smart Intelligent Computing and Applications

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A Redundant Adder Architecture in Ternary Quantum-Dot Cellular Automata

Bandan Kumar Bhoi, Neeraj Kumar Misra, Ipsita Dash and Ankita Patra

Abstract Now researchers are moving toward emerging technologies to replace the conventional CMOS technology. Quantum-dot cellular automata (QCA) are one of them for high-performance computing circuits. Ternary QCA is one of the finest research areas in this domain for replacement of binary logic. In this paper, we proposed a new redundant adder architecture using Ternary QCA technology. Our proposed architecture has 233 numbers of cells with an area of 0.35 μm^2. All the proposed ternary logic layouts are implemented in TQCA designer tool.

Keywords Nanometer-scale · Full adder · Quantum-dot cellular automata · Complexity · Majority gate

1 Introduction

Quantum-dot Cellular Automata (QCA) are a technique which can overcome the limitations of current CMOS technology by replacing CMOS devices with 'Quantum-dot cells' in which the idea is that 'data are transferred from one cell to another by propagating a polarization state rather than transferring current' [1, 2]. Binary values, i.e., 0 and 1 are only used in QCA technology. But in real world, logic values exist in more than binary values, which are known as multivalue logic. The advantages of these circuits are decrease in the input/output and low-cost faster arithmetic operations [3]. Among the multivalue logic circuits, ternary logic is most practical. This ternary logic has three values, i.e., −1, 0, and 1. These −1, 0, and 1 are also known as false, unknown, and true, respectively. Recently researchers have proposed different models for ternary logic gates. In the model [4], majority logic gate is designed using

B. K. Bhoi (✉) · I. Dash · A. Patra
Department of Electronics and Telecommunication, Veer Surendra Sai University of Technology, Burla 768018, India
e-mail: bkbhoi_etc@vssut.ac.in

N. K. Misra
Bharat Institute of Engineering and Technology, Hyderabad, India
e-mail: neeraj.mishra3@gmail.com

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Lecture Notes in Electrical Engineering 524

Ashish Khare
Uma Shankar Tiwary
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Recent Trends in Communication, Computing, and Electronics

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An Explicit Cell-Based Nesting Robust Architecture and Analysis of Full Adder

Bandan Kumar Bhoi, Tusarjyoti Das, Neeraj Kumar Misra and Rashmishree Rout

Abstract Moving towards micrometre scale to nanometre scale device shrinks down emerging nanometre technology such as quantum-dot cellular automata as a nesting success. The introduced architecture is robust where the explicit design of full adder and full subtraction uses for Ex-OR design. A new architecture of Ex-OR based on one majority gate is proposed, which its most optimized architecture and its placement of cells from the novel design. The analysis based on simulation showed that the introduced Ex-OR and full adder makes only 11 and 46 cells count, respectively. In proposed Ex-OR design, first output is received with no any latency which can be a suitable design for implementation of the high-speed full adder design. In addition, power estimation results are obtained after simulation of proposed designs in QCAPro tool. Therefore, the novel designs improve the energy dissipation parameters such as mean leakage energy dissipation, mean switching energy dissipation and total energy dissipation 75, 11.28 and 82.19% in comparison with the most robust design in existing.

Keywords Nanometre scale · Full adder · Quantum-dot cellular automata Complexity · Majority gate

1 Introduction

Quantum-dot cellular automata (QCA) is an emerging technology, which has the features to overcome the limitation of CMOS technology in scaling [1]. This promising technology is very simple as its basic building block in a QCA cell, where interaction between cells is purely Columbia rather than transportation of charge. Hence, there

B. K. Bhoi (✉) · T. Das · R. Rout
Department of Electronics & Telecommunication, Veer Surendra Sai University of Technology, Burla 768018, India
e-mail: bkbhoi_etc@vssut.ac.in

N. K. Misra
Bharat Institute of Engineering and Technology, Hyderabad, India

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BOOK CHAPTER 4 Analyzing Design Parameters of Nano-Magnetic Technology Based Converter Circuit

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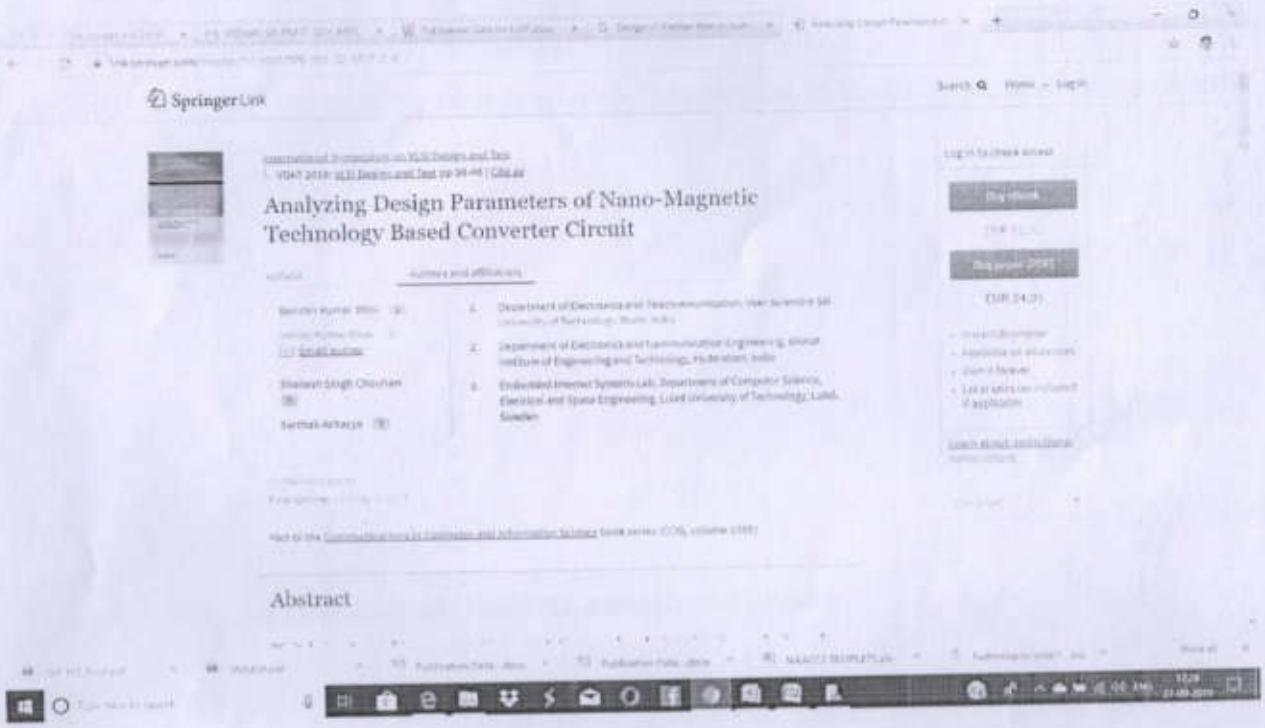

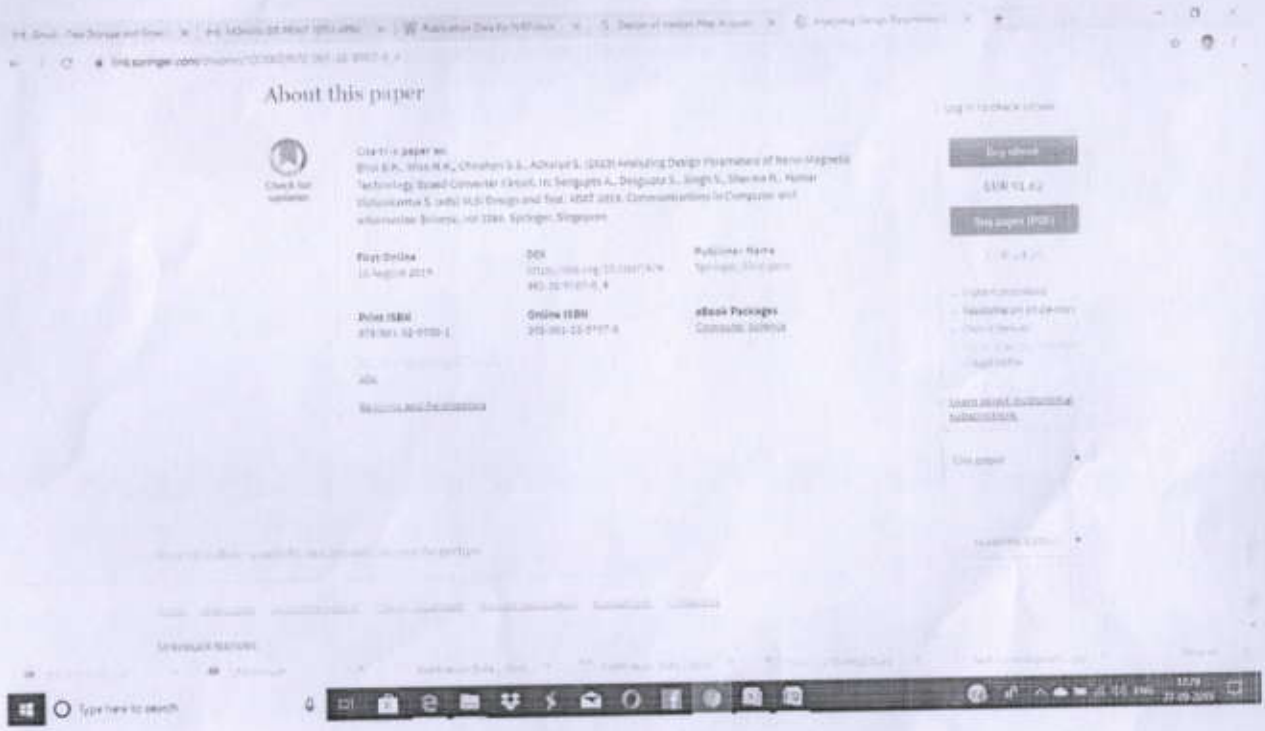

Analyzing Design Parameters of Nano-Magnetic Technology Based Converter Circuit

Bandan Kumar Bhoi[1], Neeraj Kumar Misa[2(✉)], Shailesh Singh Chouhan[3], and Sarthak Acharya[3]

[1] Department of Electronics and Telecommunication, Veer Surendra Sai University of Technology, Burla 768018, India
[2] Department of Electronics and Communication Engineering, Bharat Institute of Engineering and Technology, Hyderabad 501510, India
neeraj.mishra3@gmail.com, neerajmisra@ieee.org
[3] Embedded Internet Systems Lab, Department of Computer Science, Electrical and Space Engineering, Luleå University of Technology, Luleå, Sweden

Abstract. Digital circuits need improvement in computation speed, reducing circuit complexity and power consumption. Emerging Technology NML can be such an architecture at nano-scale and thus emerges as a viable alternative for the digital CMOS VLSI. This technology has the capability to compute the logic as well as storage into the same device, which points out that it great potential for emerging technology. Since Nano-magnetic, technology fast approaches its minimal feature size, high device density and operate at room temperature. NML based circuits synthesis has to opt for novel half subtraction and Binary-to-Gray architecture for achieving minimal complexity and high-speed performance. This manuscript pro-poses area efficient binary half-subtraction and Binary-to-Gray converter architecture. Circuits' synthesize are performed by MagCAD tool and simulate by Modelsim simulator. The circuit's performance are estimated over other existing designs. The proposed converter consume 73.73%, and 94.49% less area than the converter designed using QCA and CMOS technique respectively. This is a significant contribution to this paper. Simulation results of converter show that the critical path delay falls within 0.15 μs.

Keywords: Nano-magnetic logic · Binary-to-gray converter · Magnetic anisotropy · Minority voter · Perpendicular nano-magnetic logic

1 Introduction

Very Large Scale Integration (VLSI) circuits based on complementary metal oxide semiconductor (CMOS) may scale down to the nano-meter range. CMOS computing is reaching its downscaling but beyond its certain disadvantage such as leakage cur-rent, short channel effect and lithography cost [1].

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[1] Department of Electronics and Telecommunication, Veer Surendra Sai University of Technology, Burla 768018, India
[2] Department of Electronics and Communication Engineering, Bharat Institute of Engineering and Technology, Hyderabad 501510, India
neeraj.mishra3@gmail.com, neerajmisra@ieee.org
[3] Embedded Internet Systems Lab, Department of Computer Science, Electrical and Space Engineering, Luleå University of Technology, Luleå, Sweden

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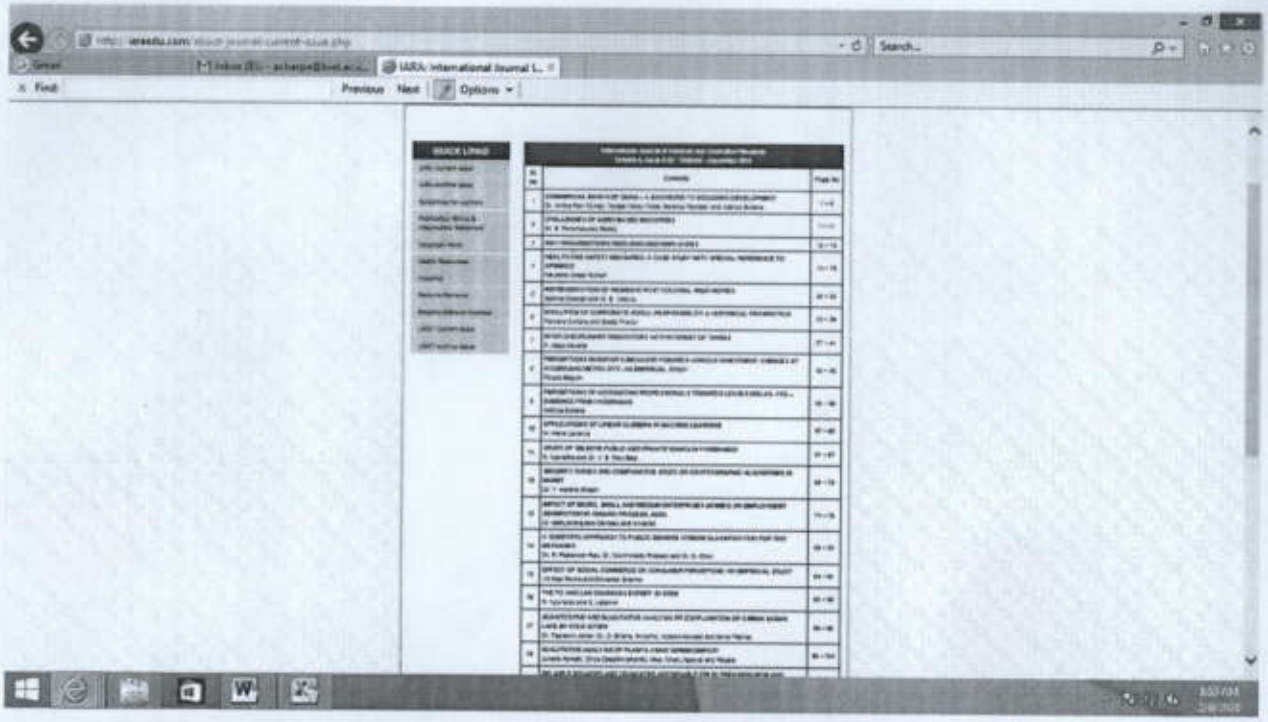

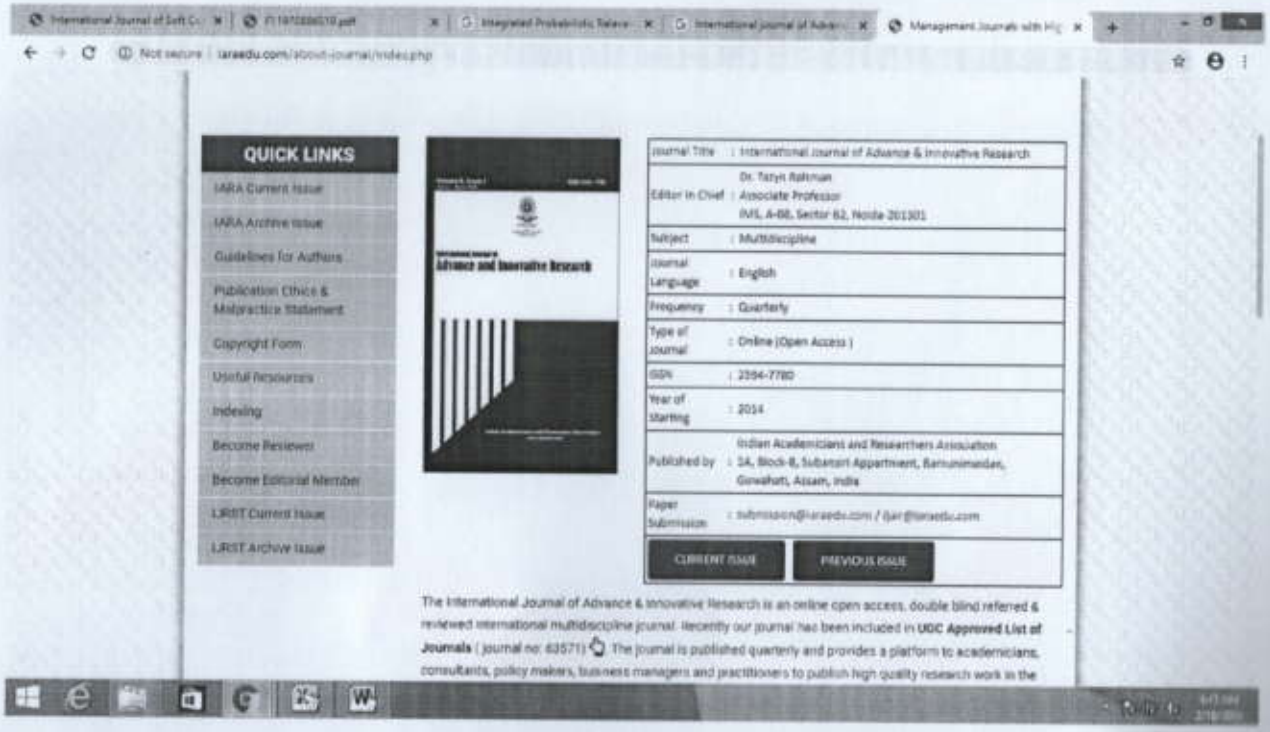
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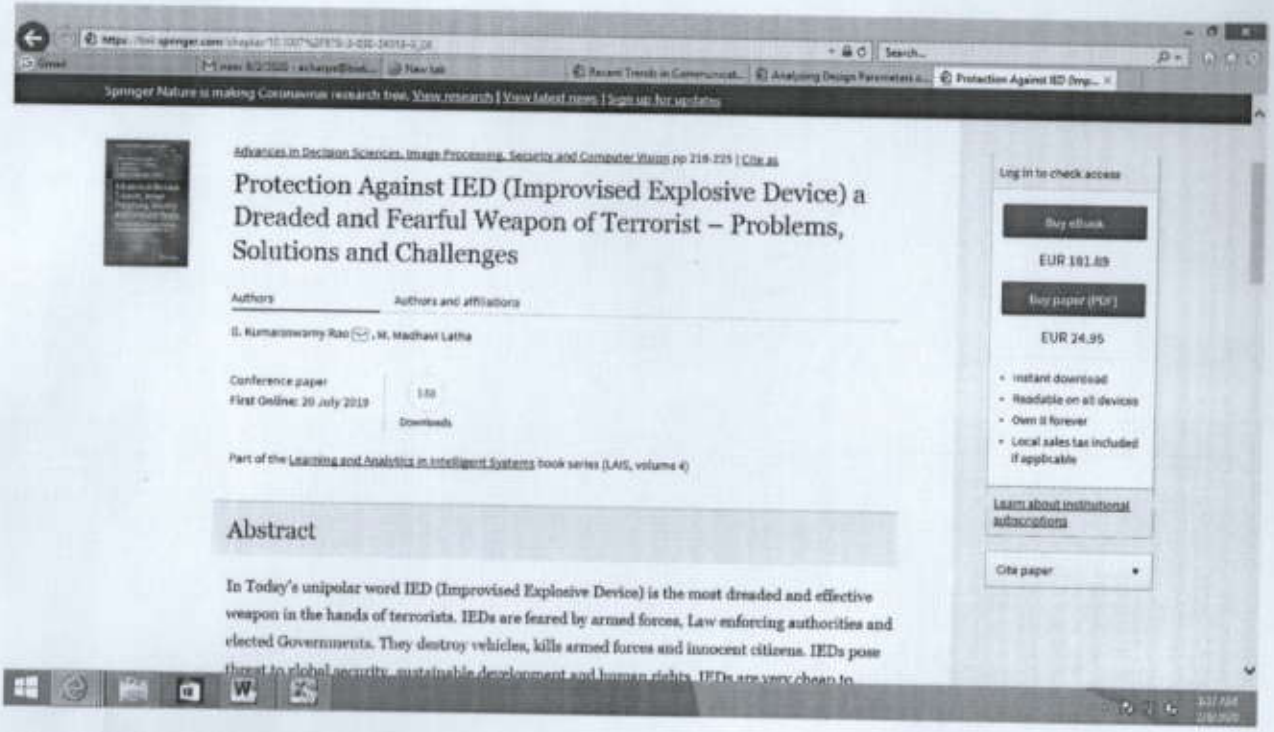

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Protection Against IED (Improvised Explosive Device) a Dreaded and Fearful Weapon of Terrorist – Problems, Solutions and Challenges

Authors | Authors and affiliations

G. Ramaraoswamy Rao, M. Madhavi Latha

Conference paper
First Online: 20 July 2019

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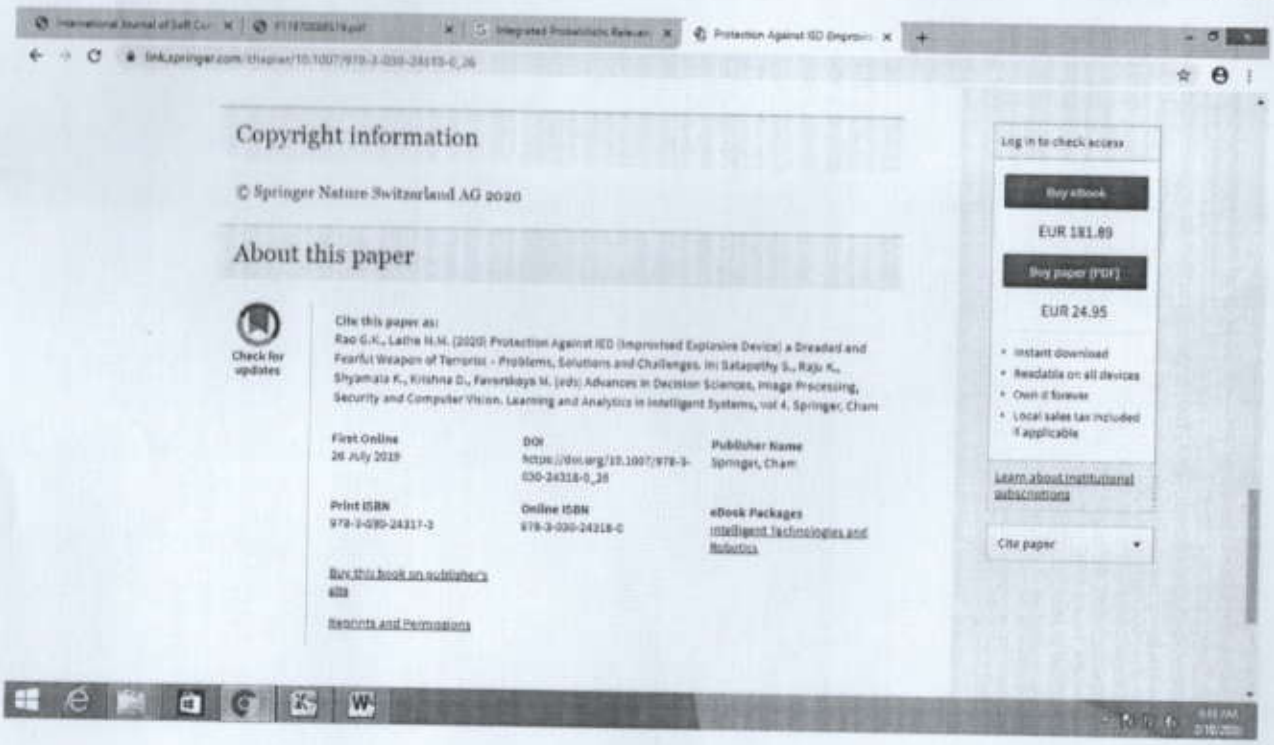
Abstract

In Today's unipolar word IED (Improvised Explosive Device) is the most dreaded and effective weapon in the hands of terrorists. IEDs are feared by armed forces, Law enforcing authorities and elected Governments. They destroy vehicles, kills armed forces and innocent citizens. IEDs pose threat to global security, sustainable development and human rights. IEDs are very cheap to



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Protection Against IED (Improvised Explosive Device) a Dreaded and Fearful Weapon of Terrorist – Problems, Solutions and Challenges

G. Kumaraswamy Rao[1(✉)] and M. Madhavi Latha[2]

[1] Bharat Institute of Engineering and Technology, R.R. Dist, Hyderabad 501 510, India
rao_gksdlrldrdo@yahoo.co.in
[2] ECE Department, JNTUH, Hyderabad, India

Abstract. In Today's unipolar word IED (Improvised Explosive Device) is the most dreaded and effective weapon in the hands of terrorists. IEDs are feared by armed forces, Law enforcing authorities and elected Governments. They destroy vehicles, kills armed forces and innocent citizens. IEDs pose threat to global security, sustainable development and human rights. IEDs are very cheap to make but most difficult and expensive to detect and prevent explosion. It is practically found that the ground based vehicle mounted jammers do not provide full protection to lengthy moving convoys on bumpy hilly terrain with hairpin bends. This paper dwells on the shortcomings of present day ground based jammers. Smart jammers mounted on unmanned aerial vehicles (UAVs) are proposed to prevent the triggering of IED by the terrorist. This takes care of signal nulls due to fading and multipath. Smart jammers on UAVs are proposed to protect crowded sport arenas.

Keywords: IED · Remote controlled IED · Fading · Multipath jammer power · Muting trigger etc.

1 Introduction

1.1 Back Ground History

In today's unipolar world the most dreaded and feared weapon is IED's. They have become menance to military commanders and democratic civilian governments. Statistics show that 63% of coalition deaths in Iraq and 66% of deaths in Afghanistan occurred due to IEDs.

Some of deadliest IED explosions in India are mentioned below.

(i) 14 February 2019 (very recent occurrence) 40 CRPF jawans killed due to Vehicle born IED rams into CRF bus. (ii) 21 February 2013 – Dilsukhnagar blast 13 civilians killed. (iii) 25 August 2007 – Lumbini Park & Gokul Chat Bhandar 42 civilians killed. (iv) 18 May 2007 – Mecca Masjid – 9 civilians lost their lives. Some of the deadliest IED attacks abroad which are remembered even today are

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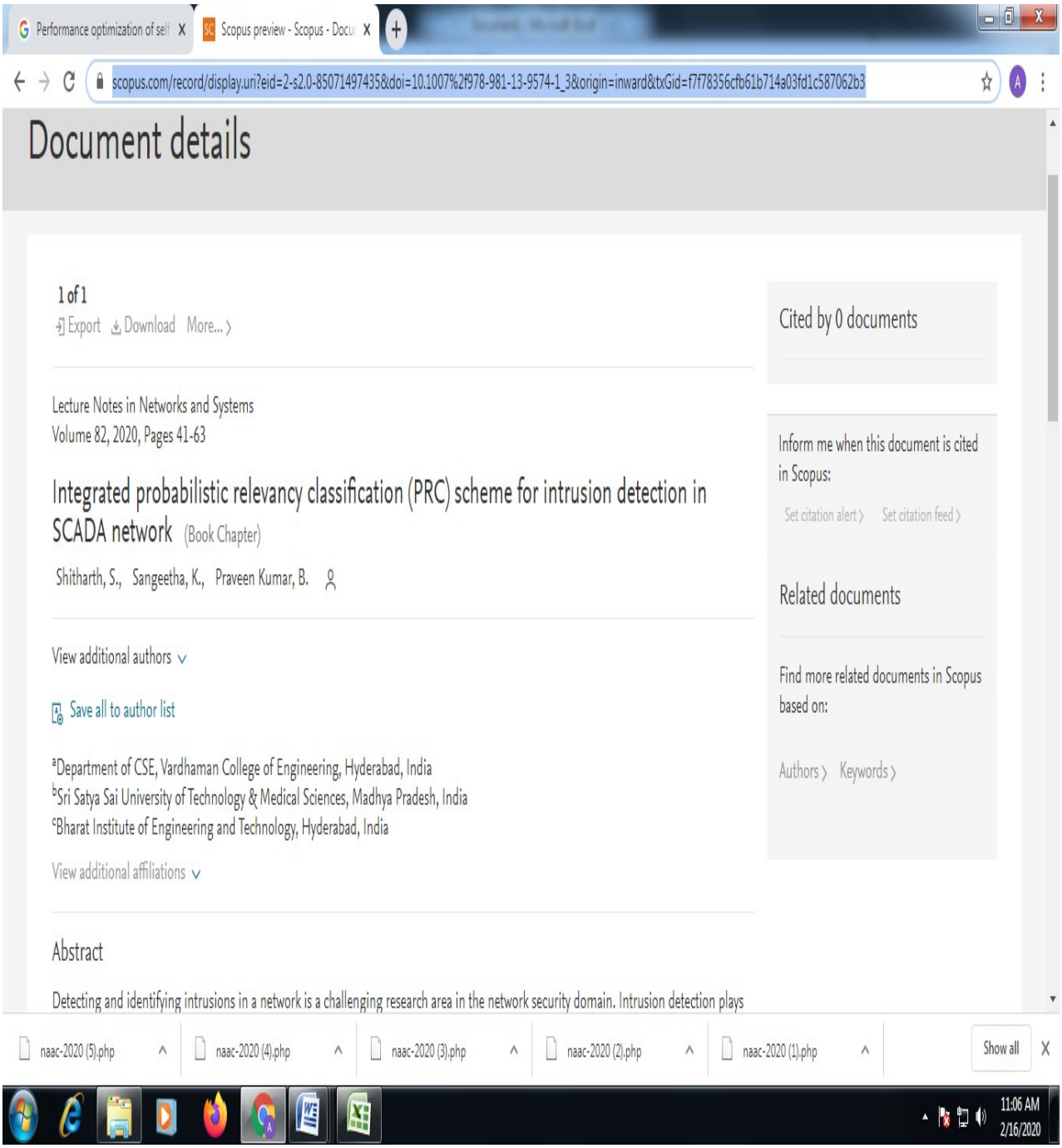

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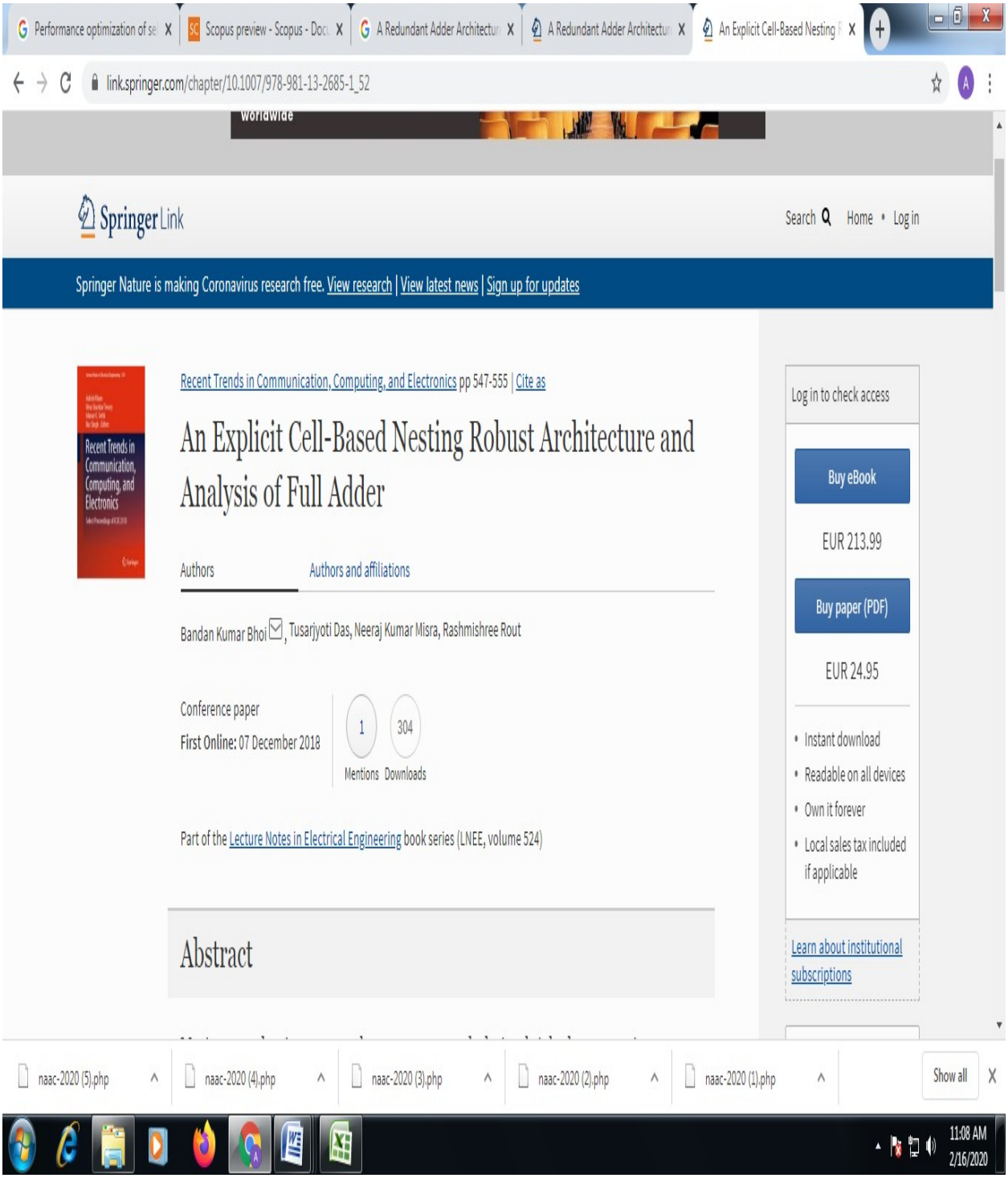

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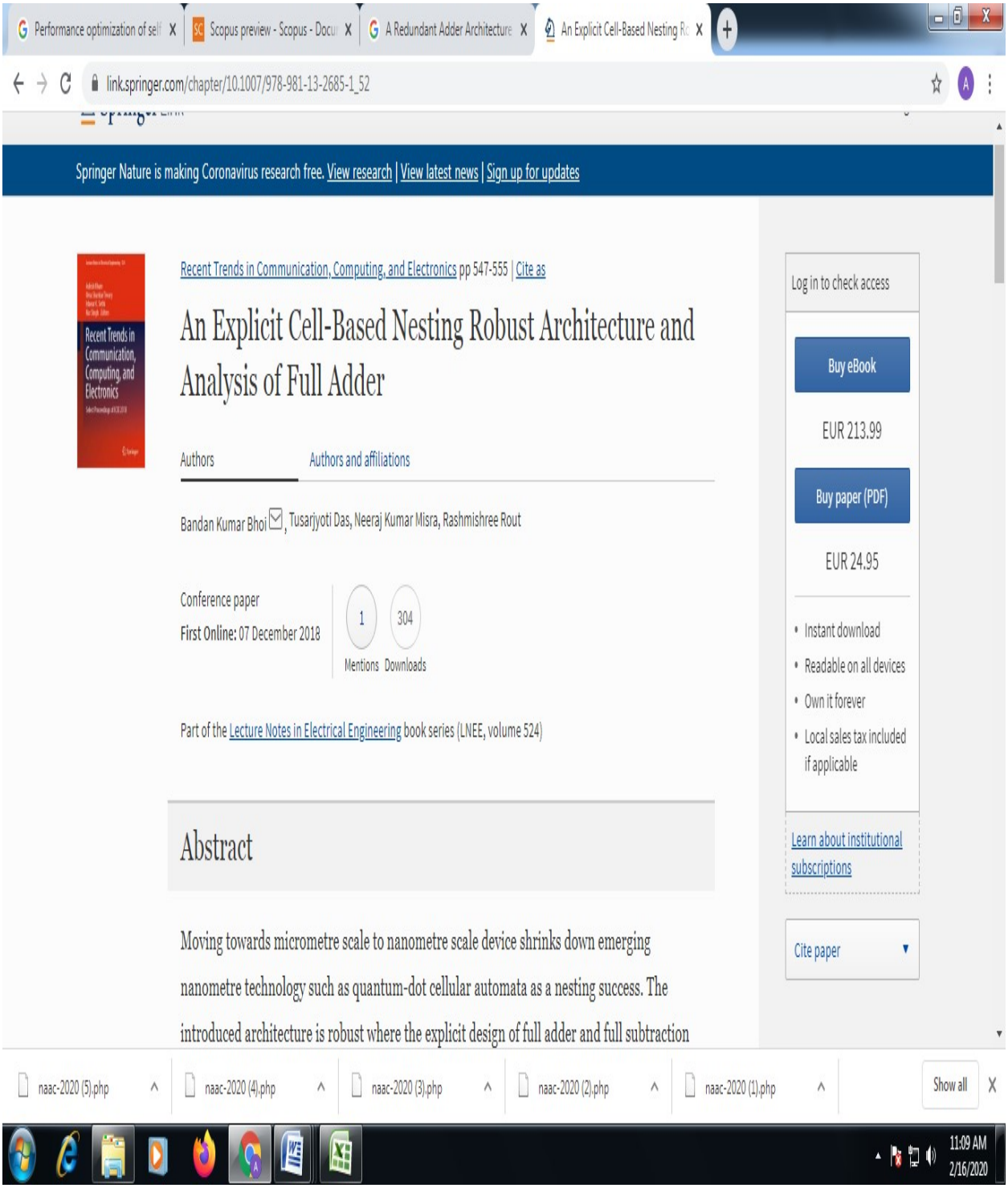

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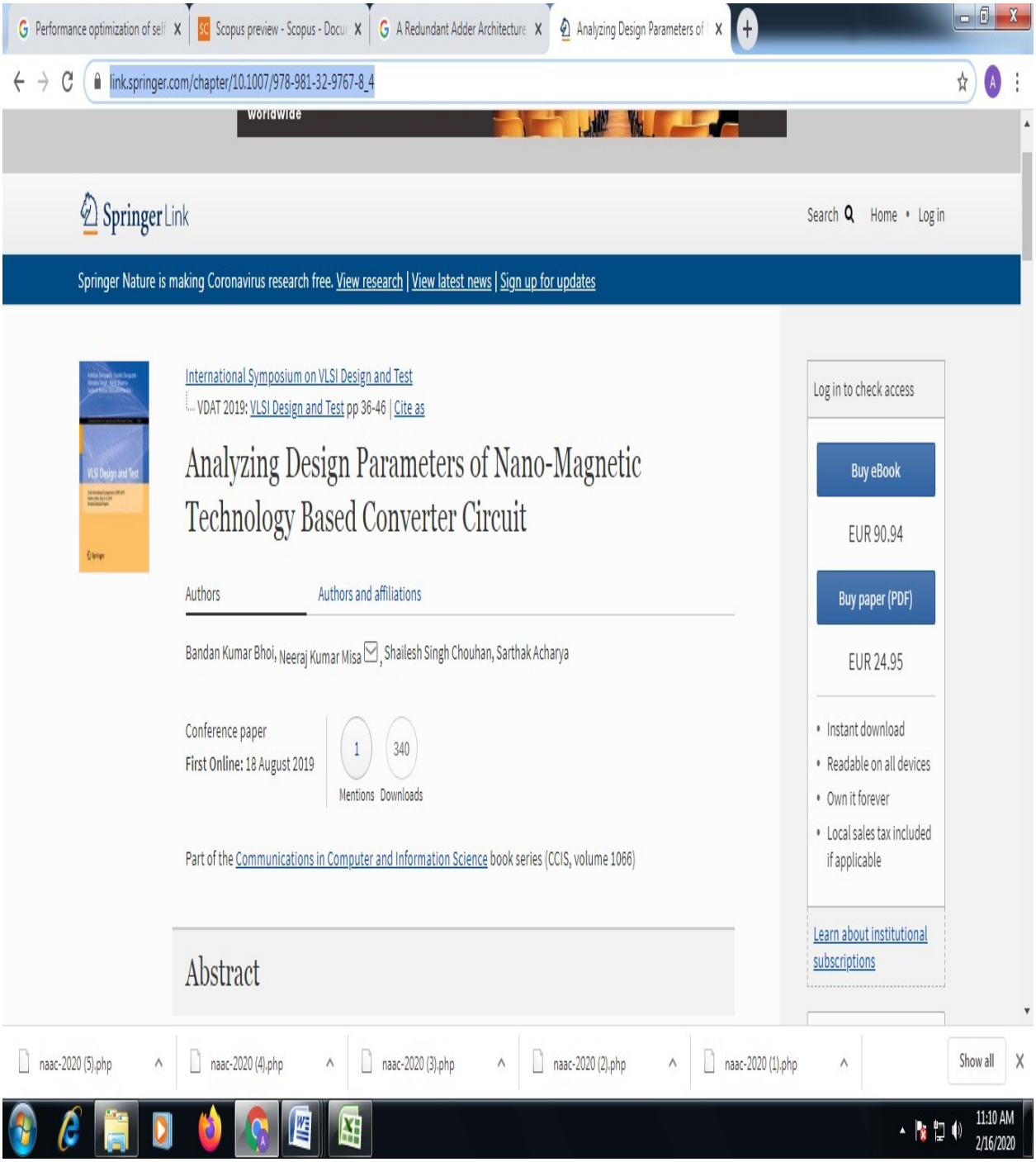

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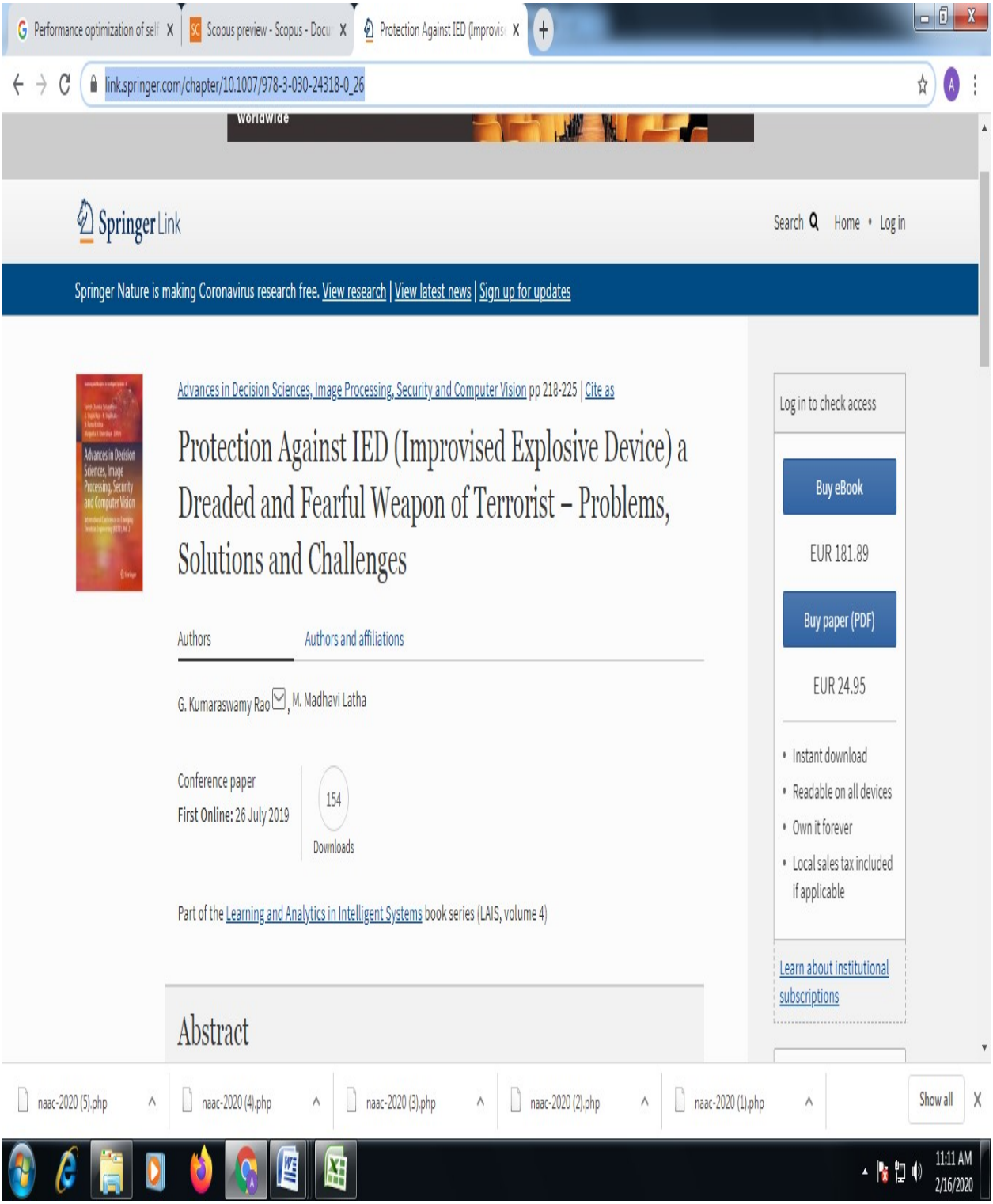

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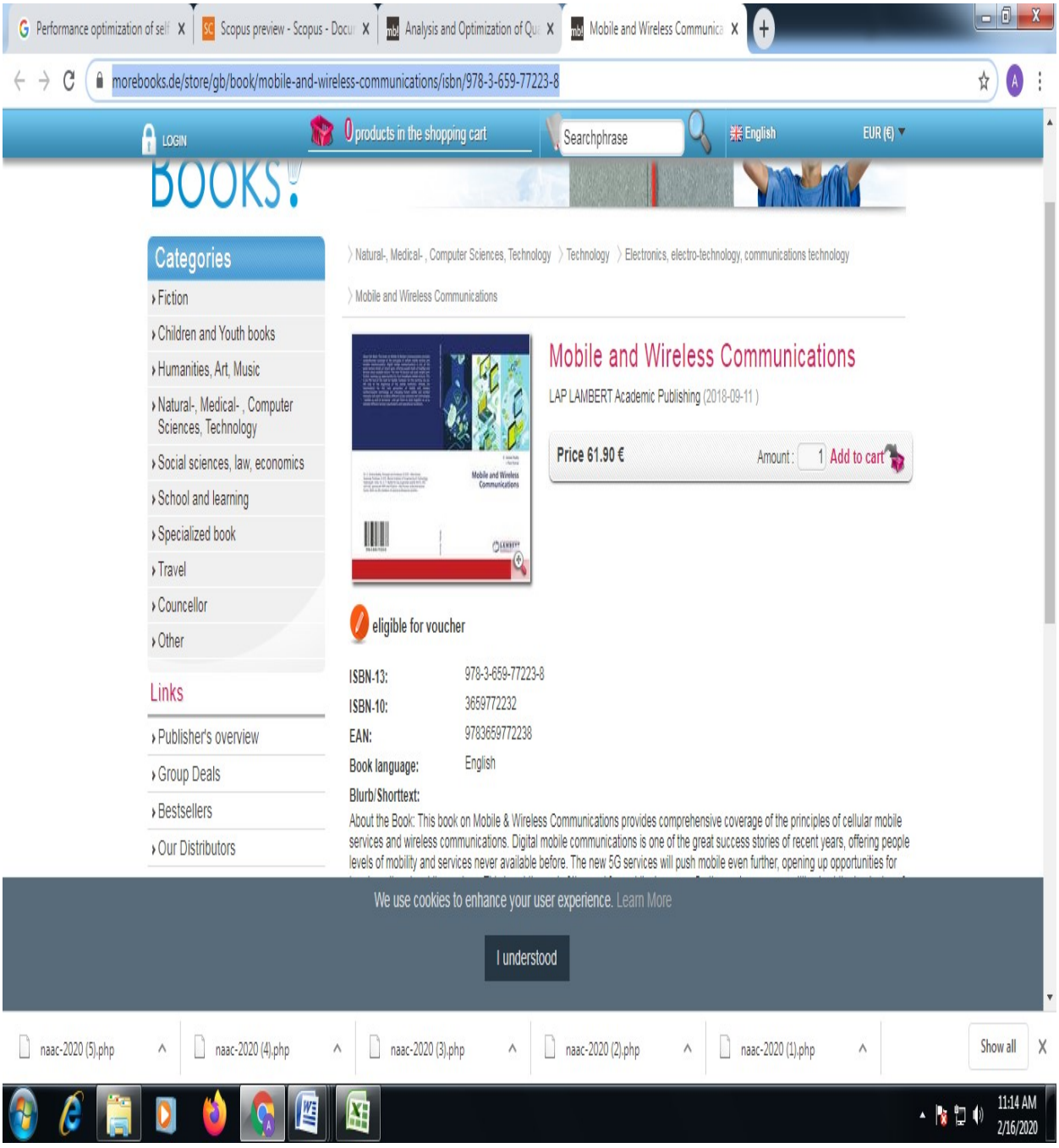

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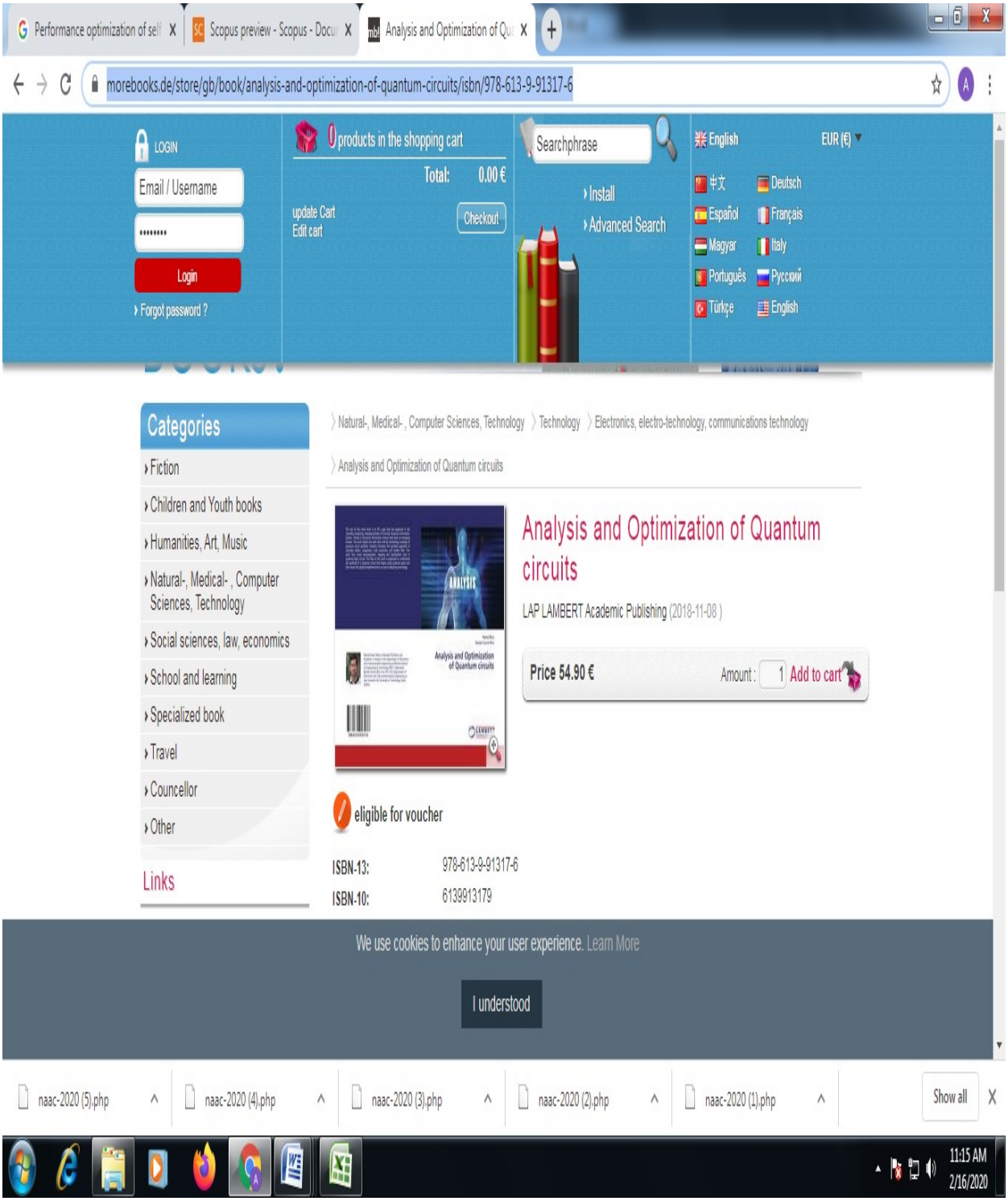

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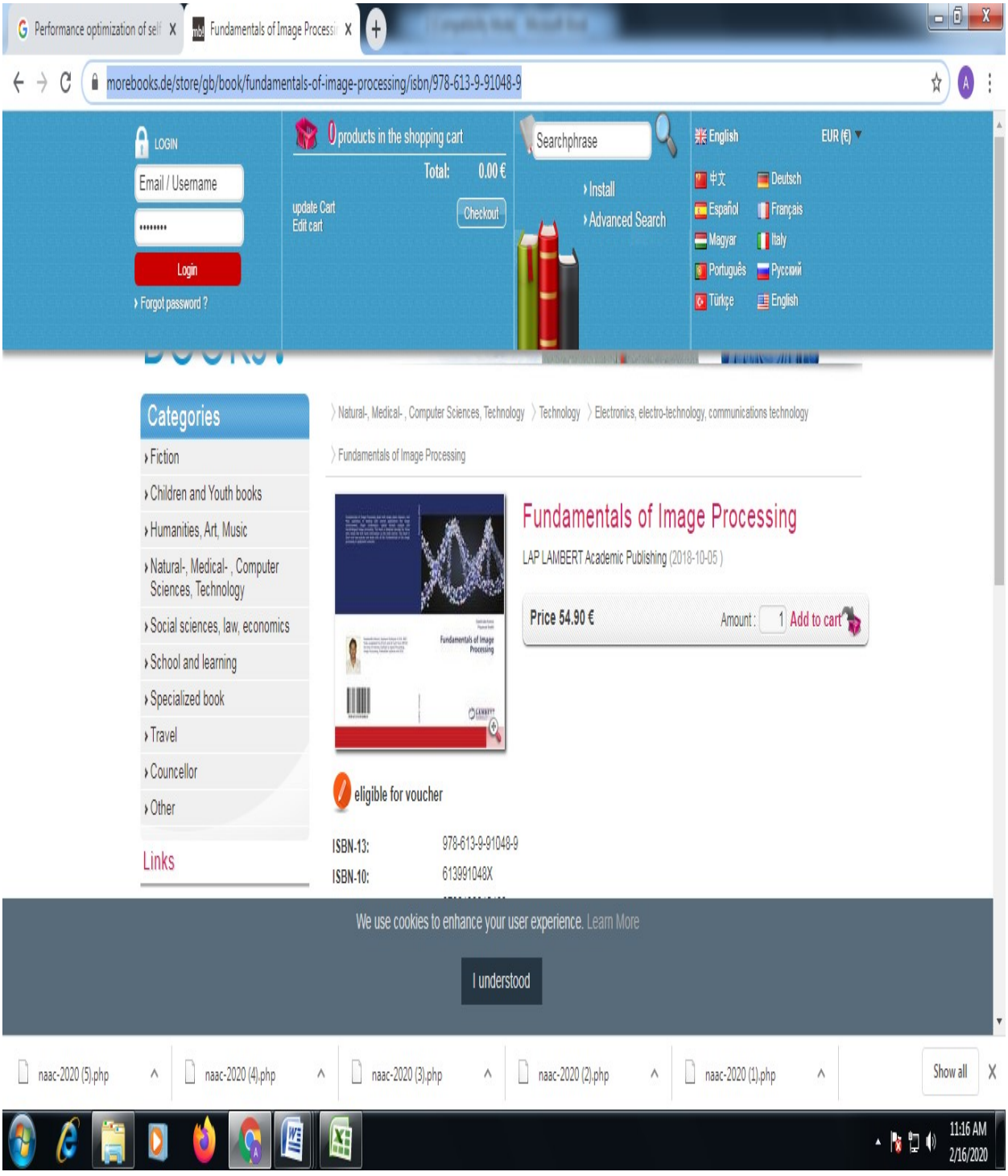

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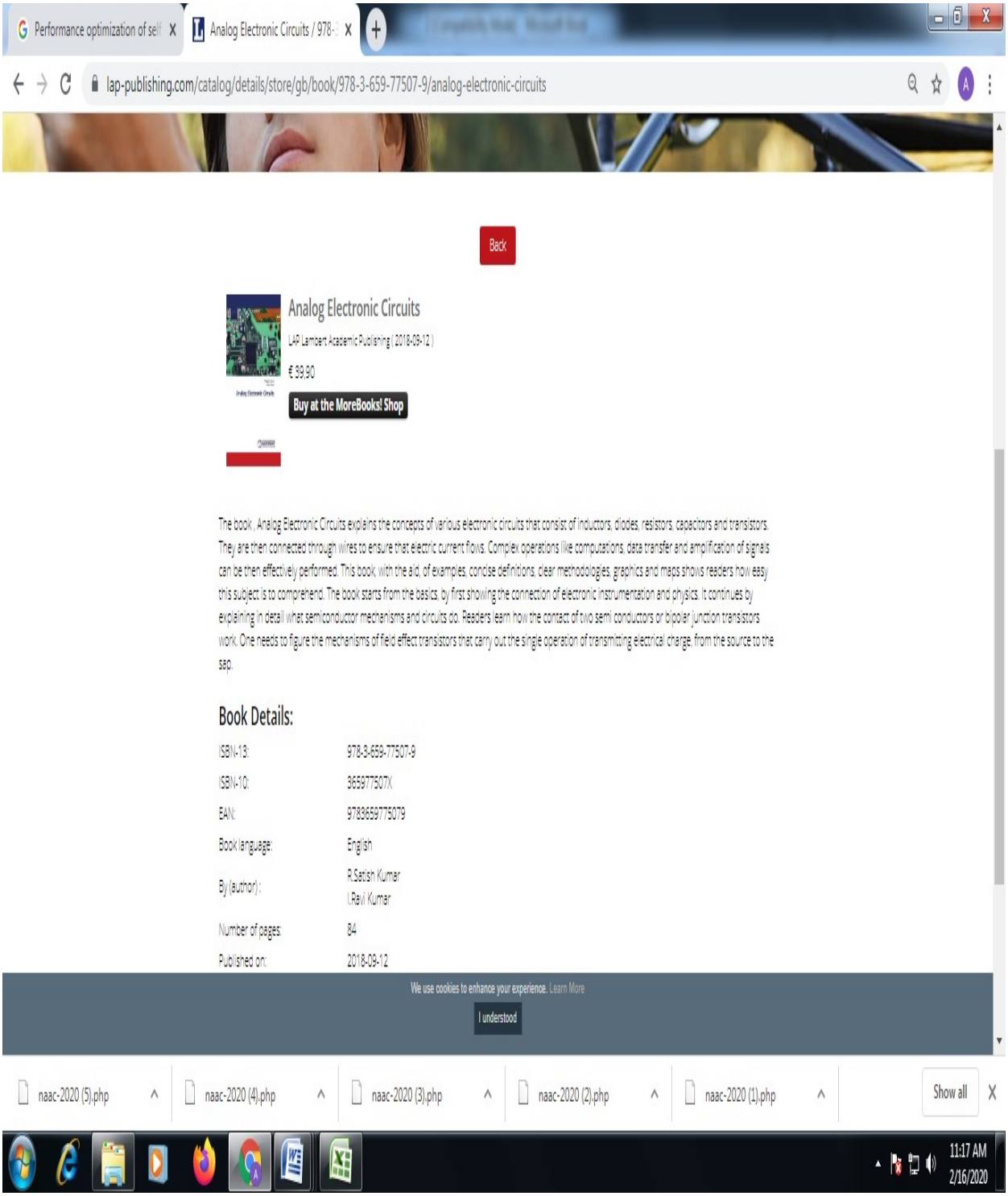

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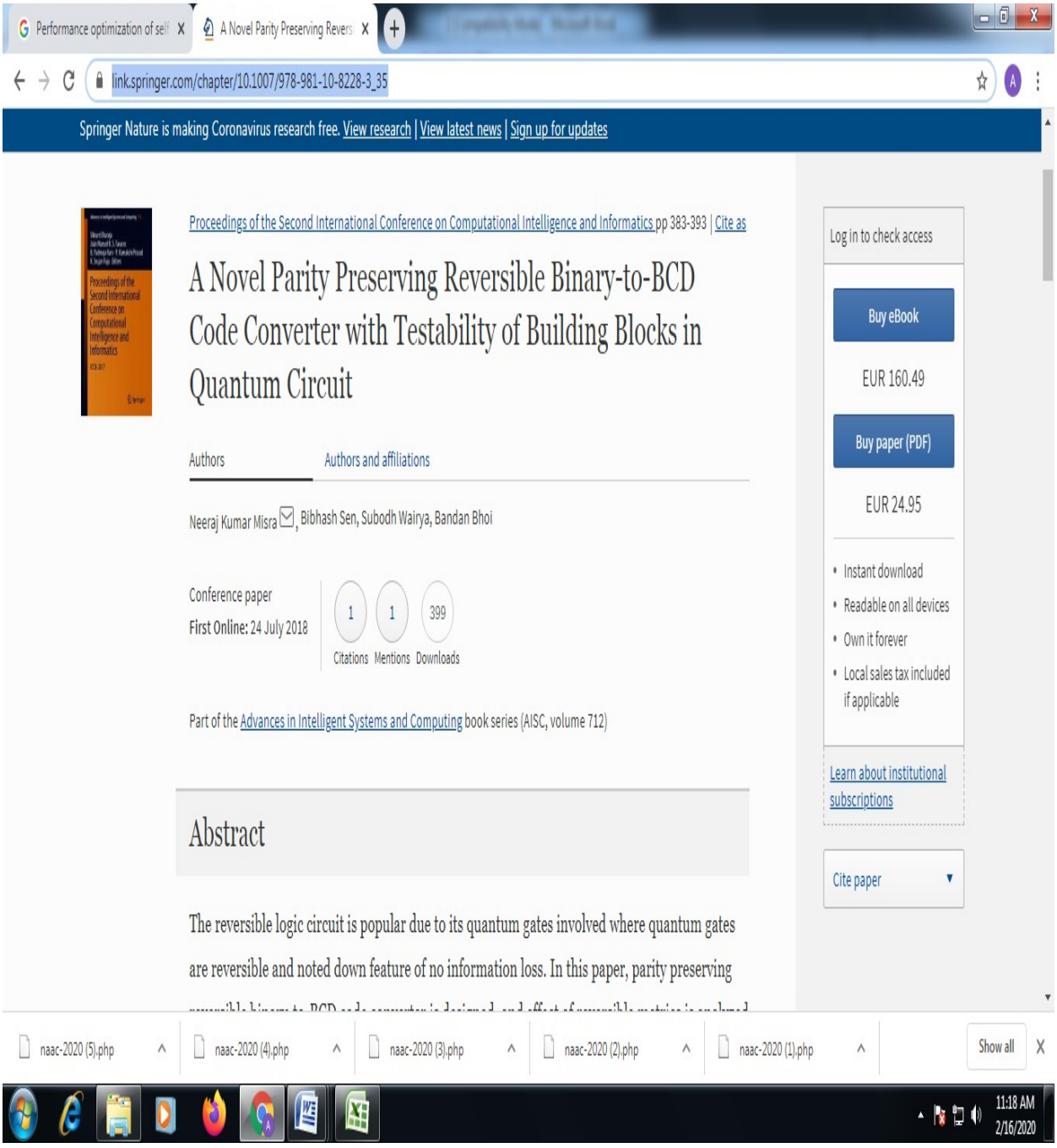

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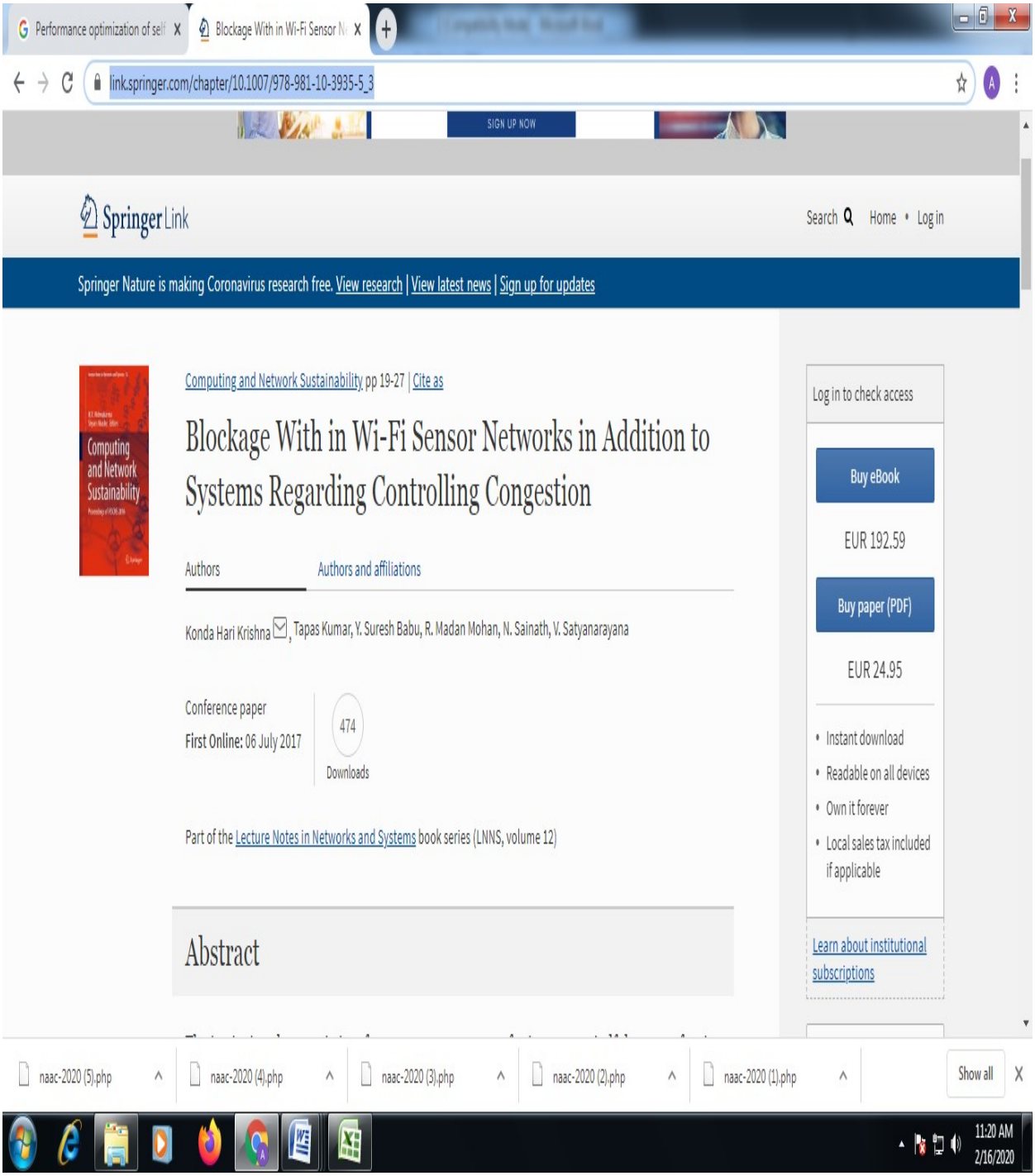

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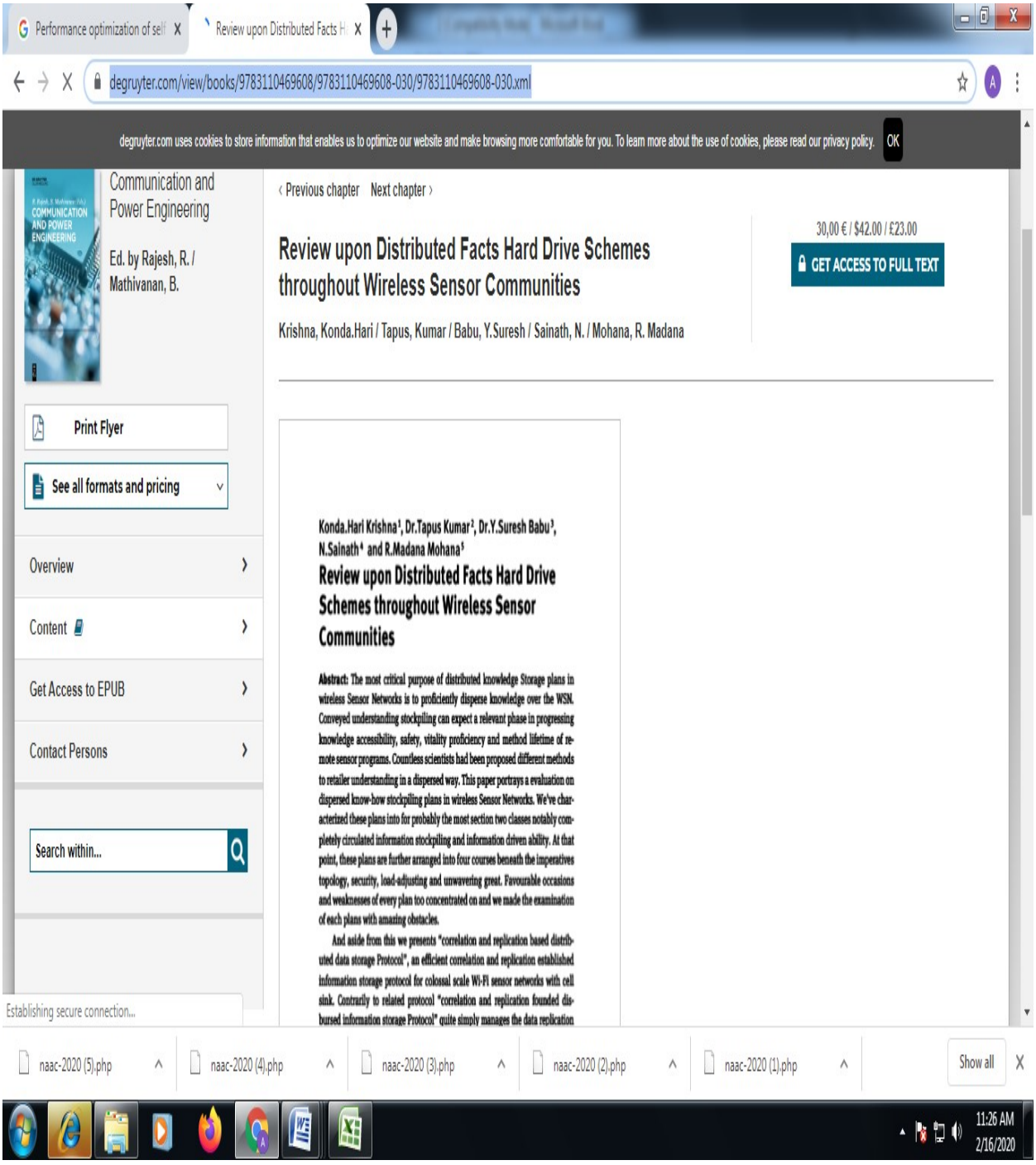

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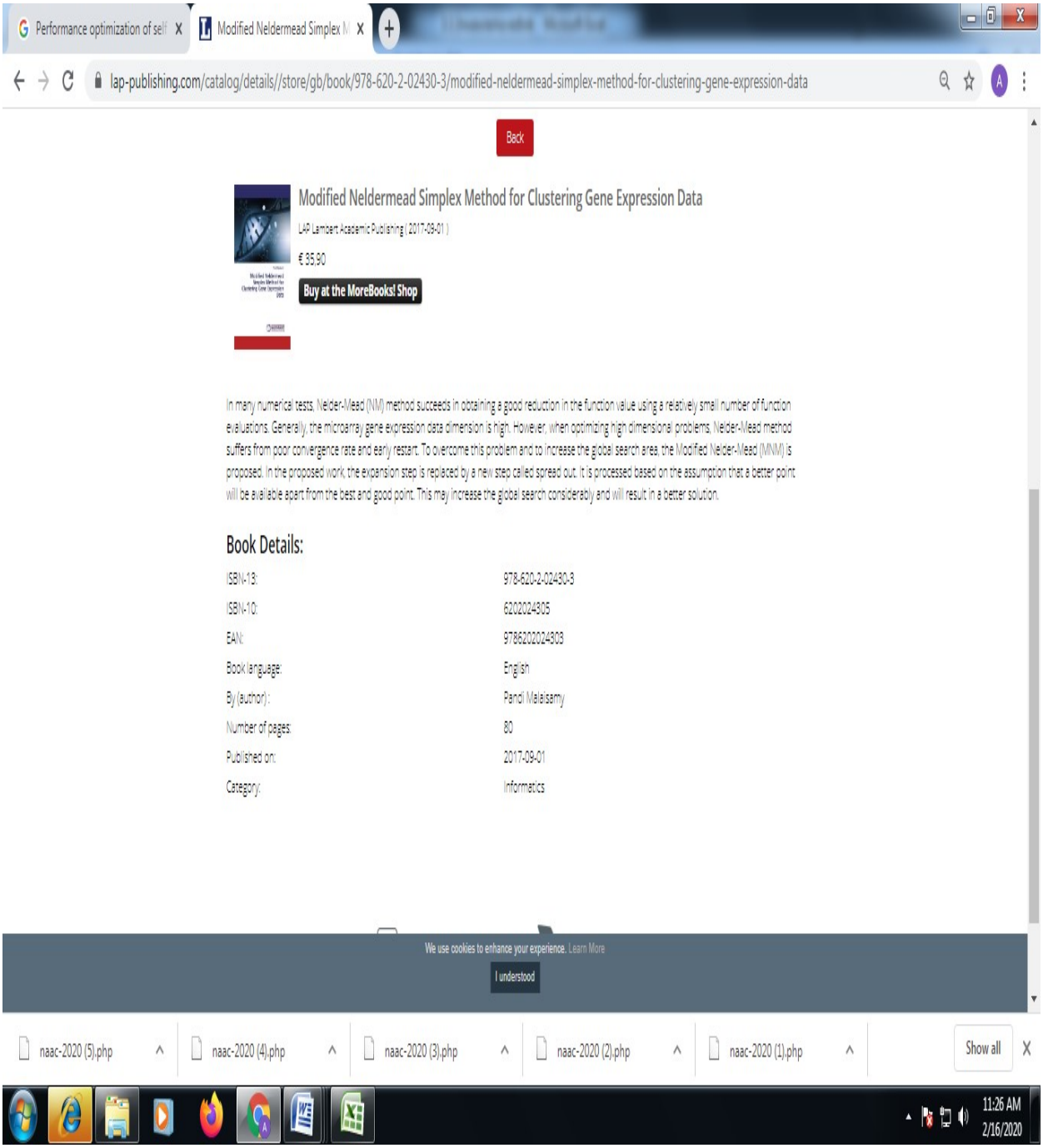

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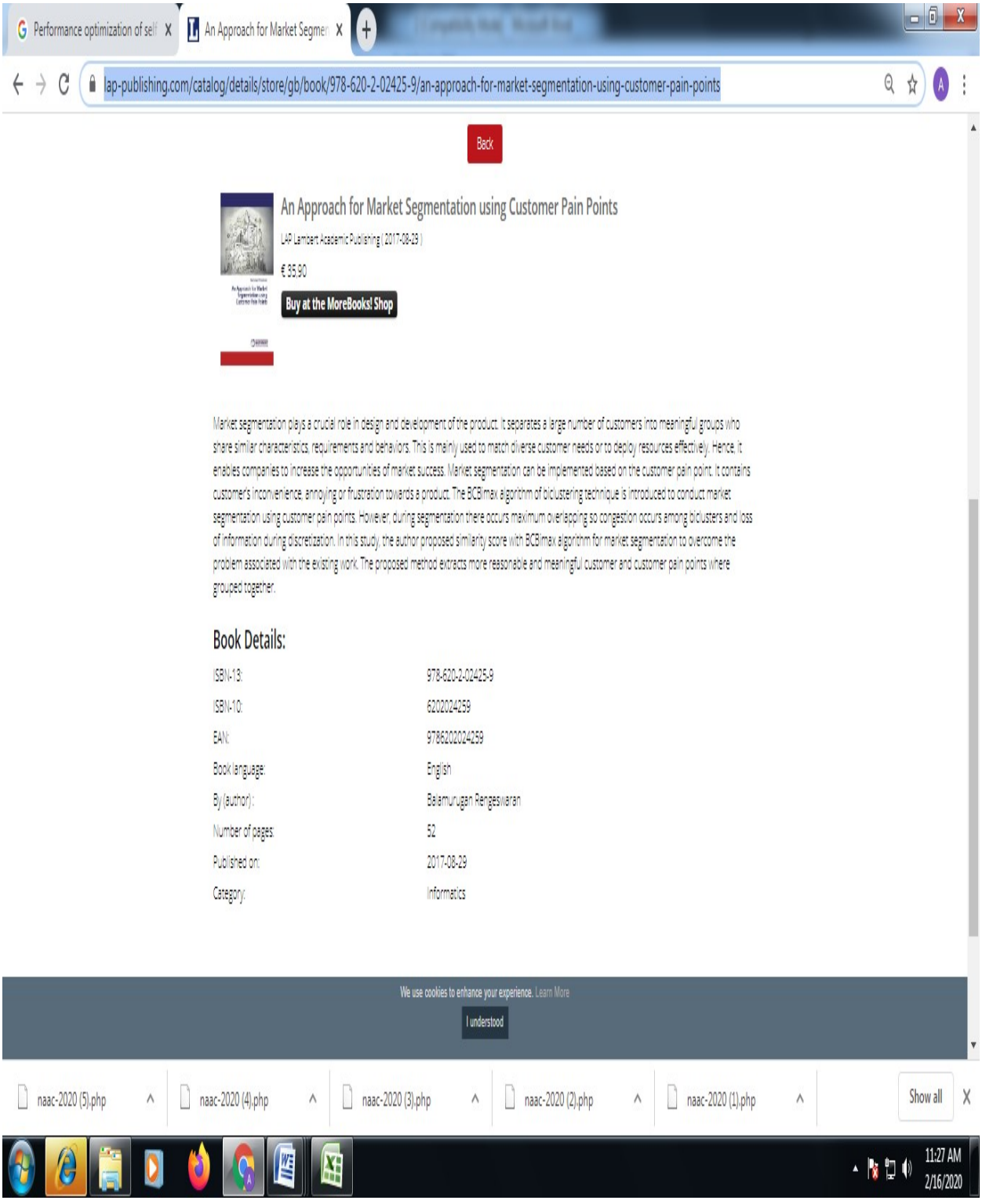

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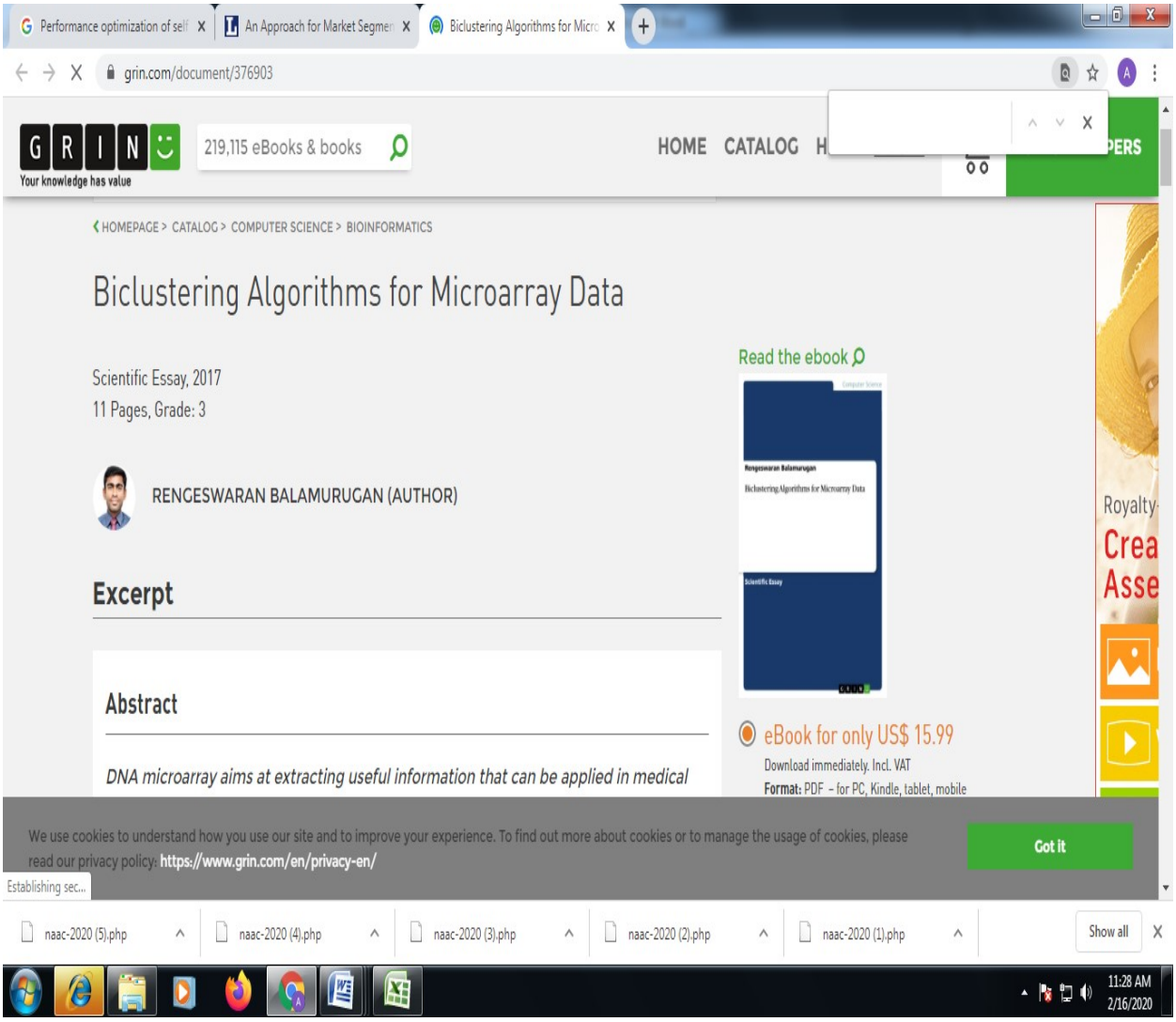

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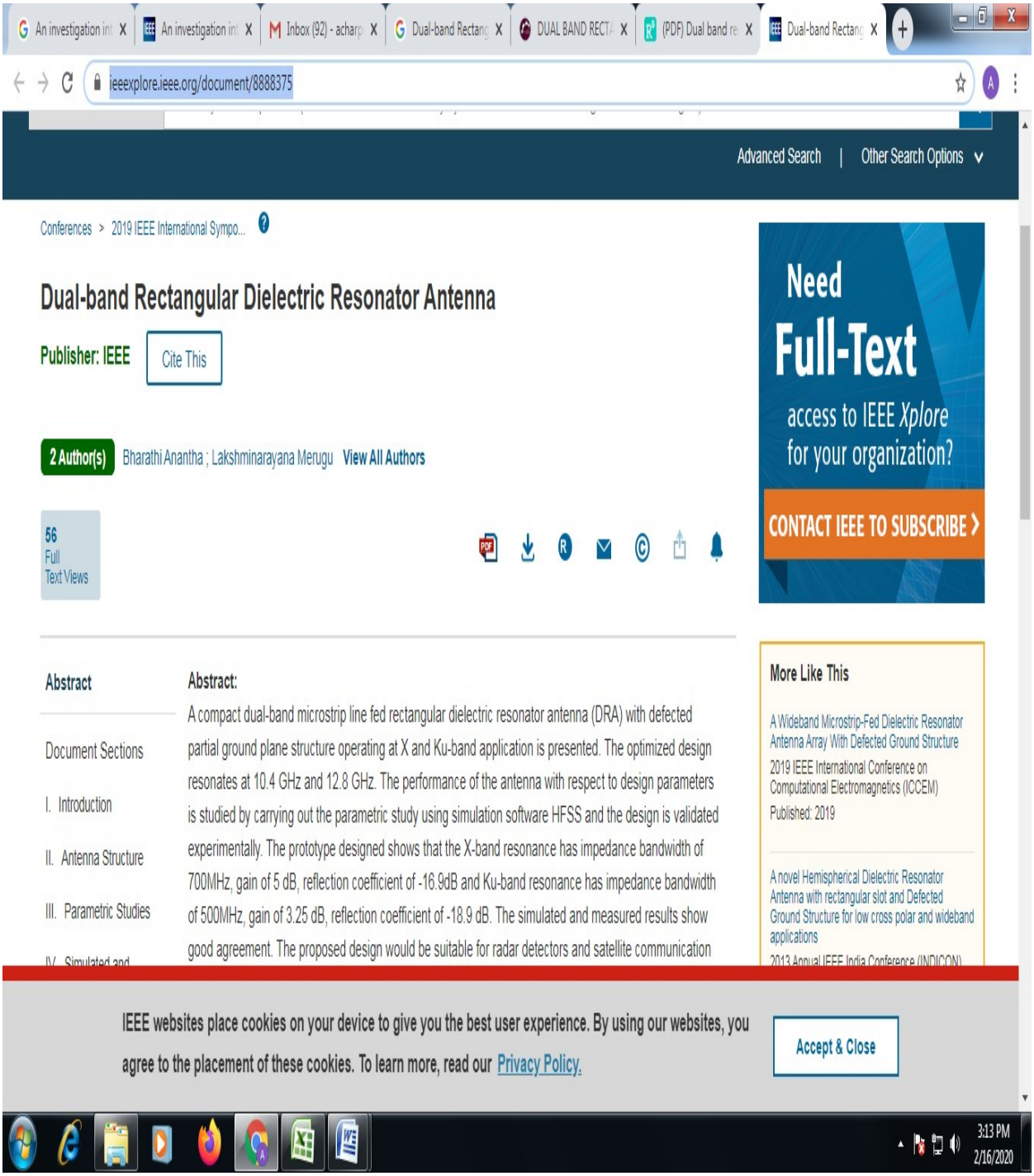

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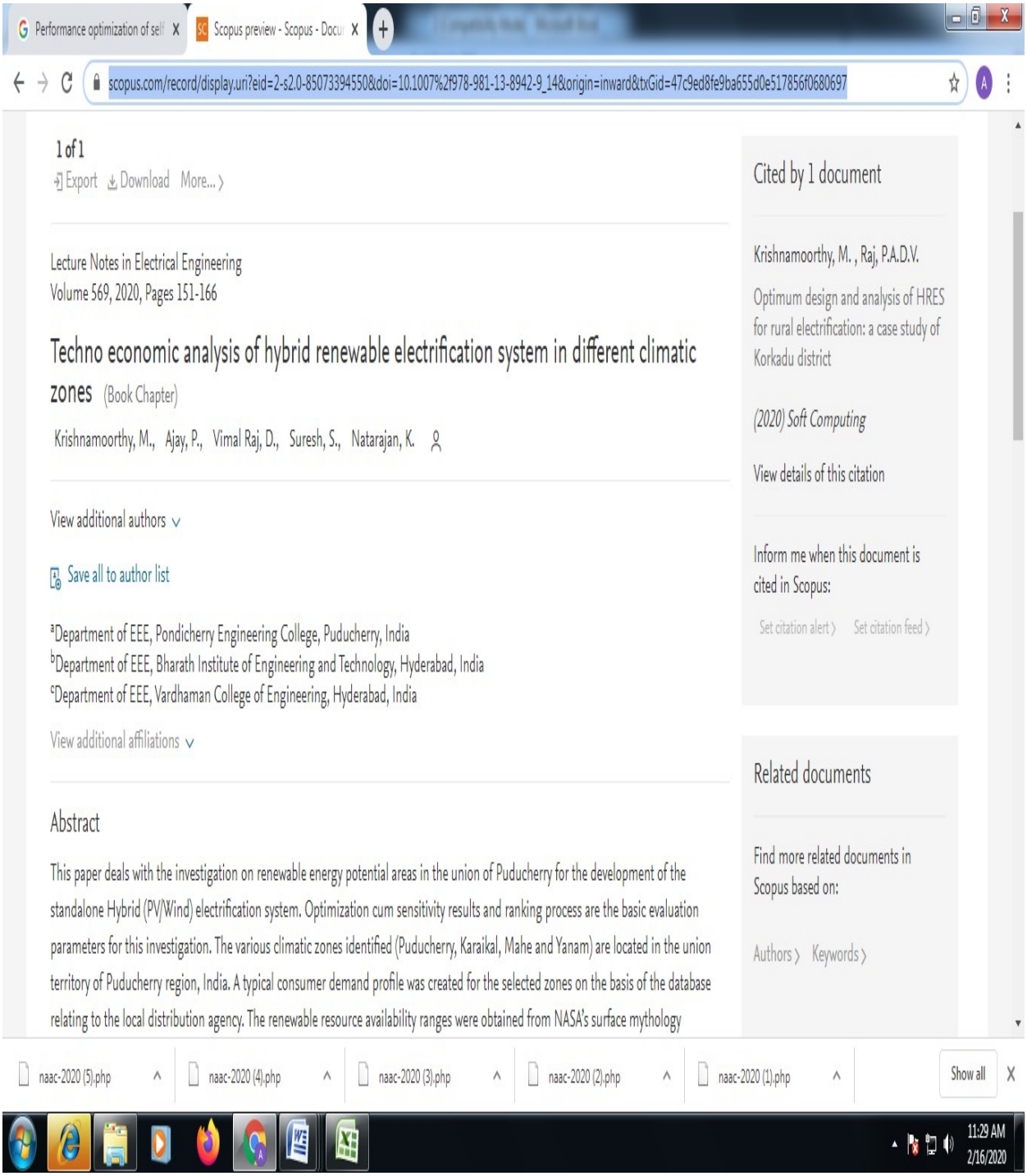

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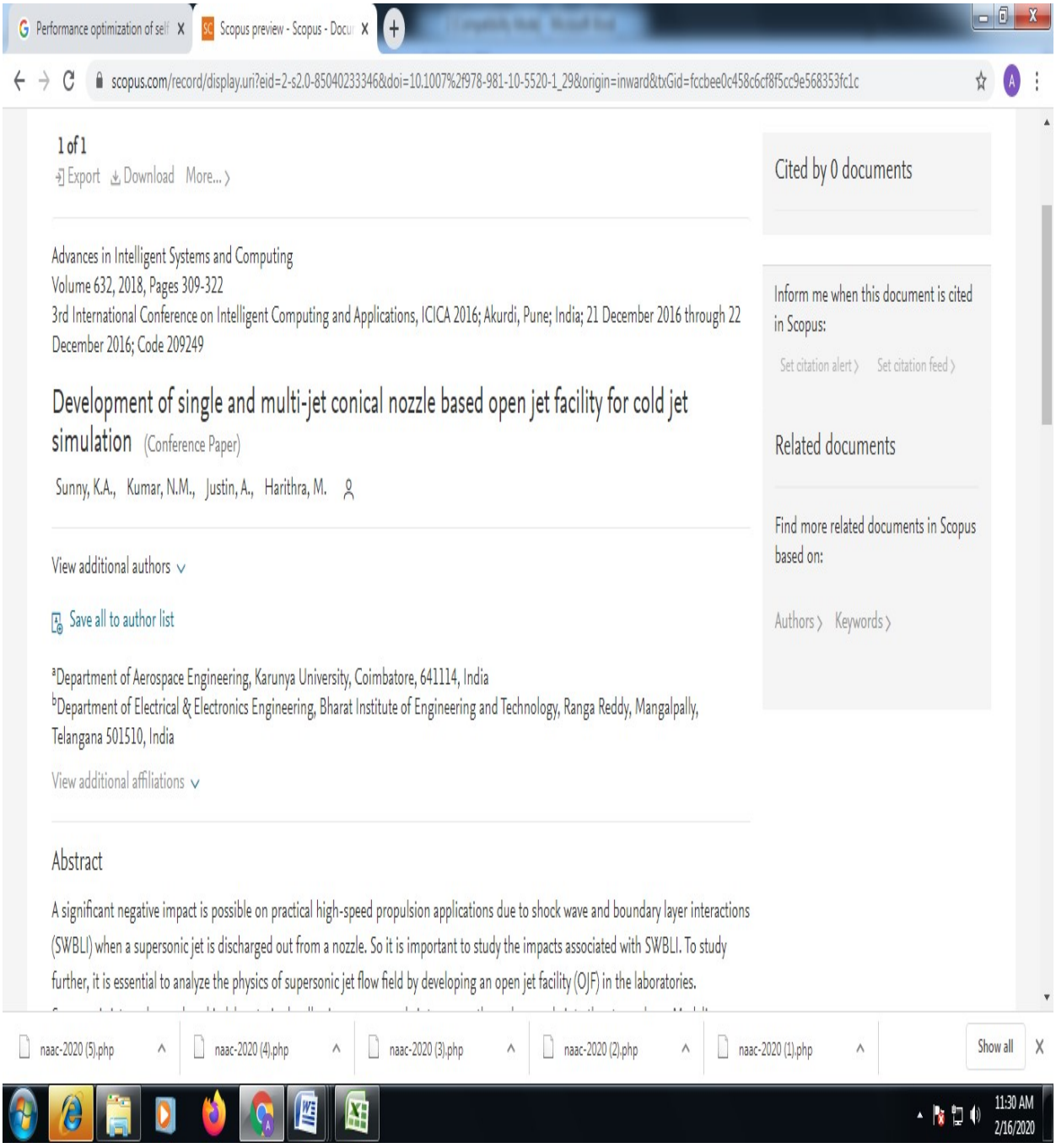

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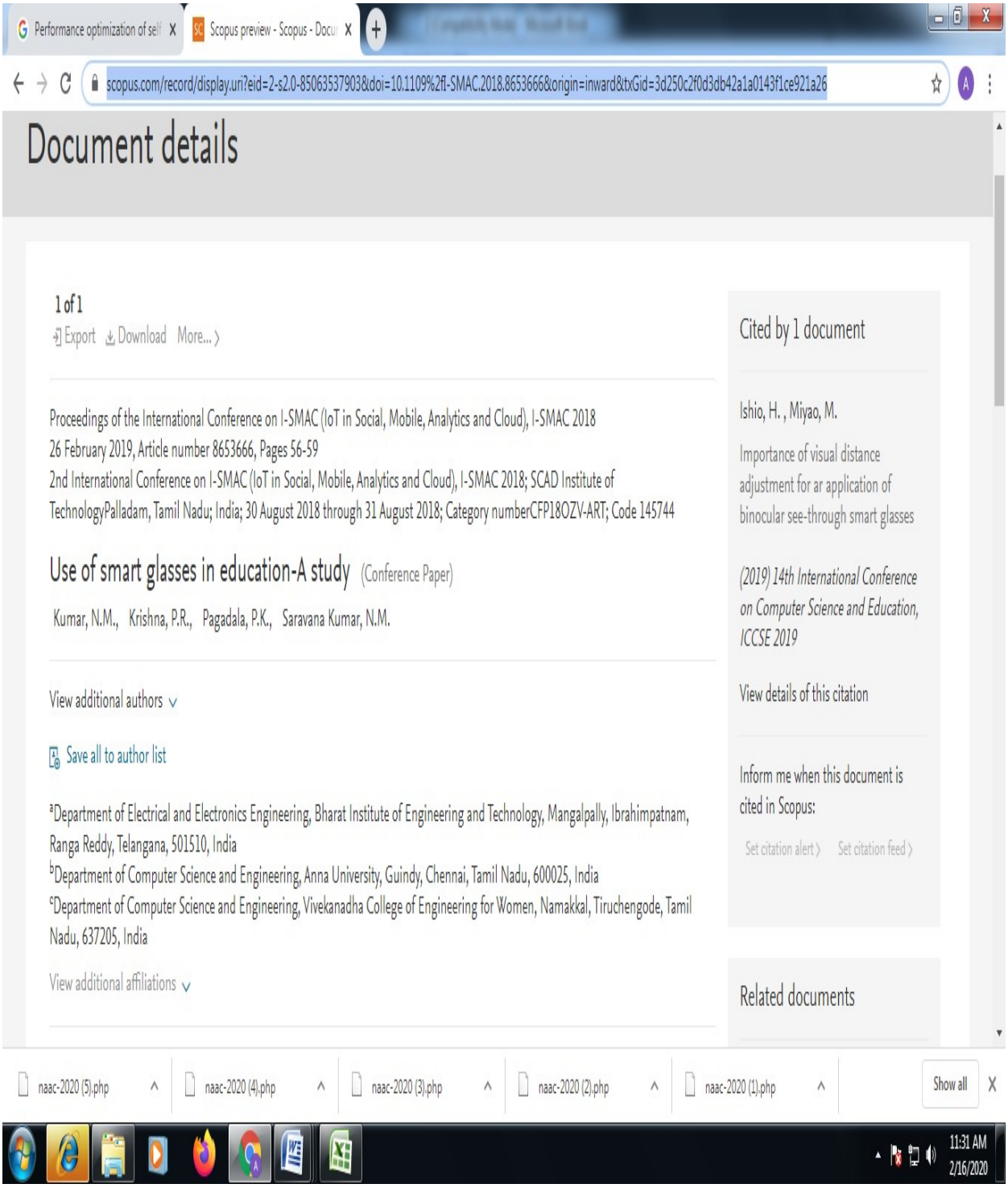

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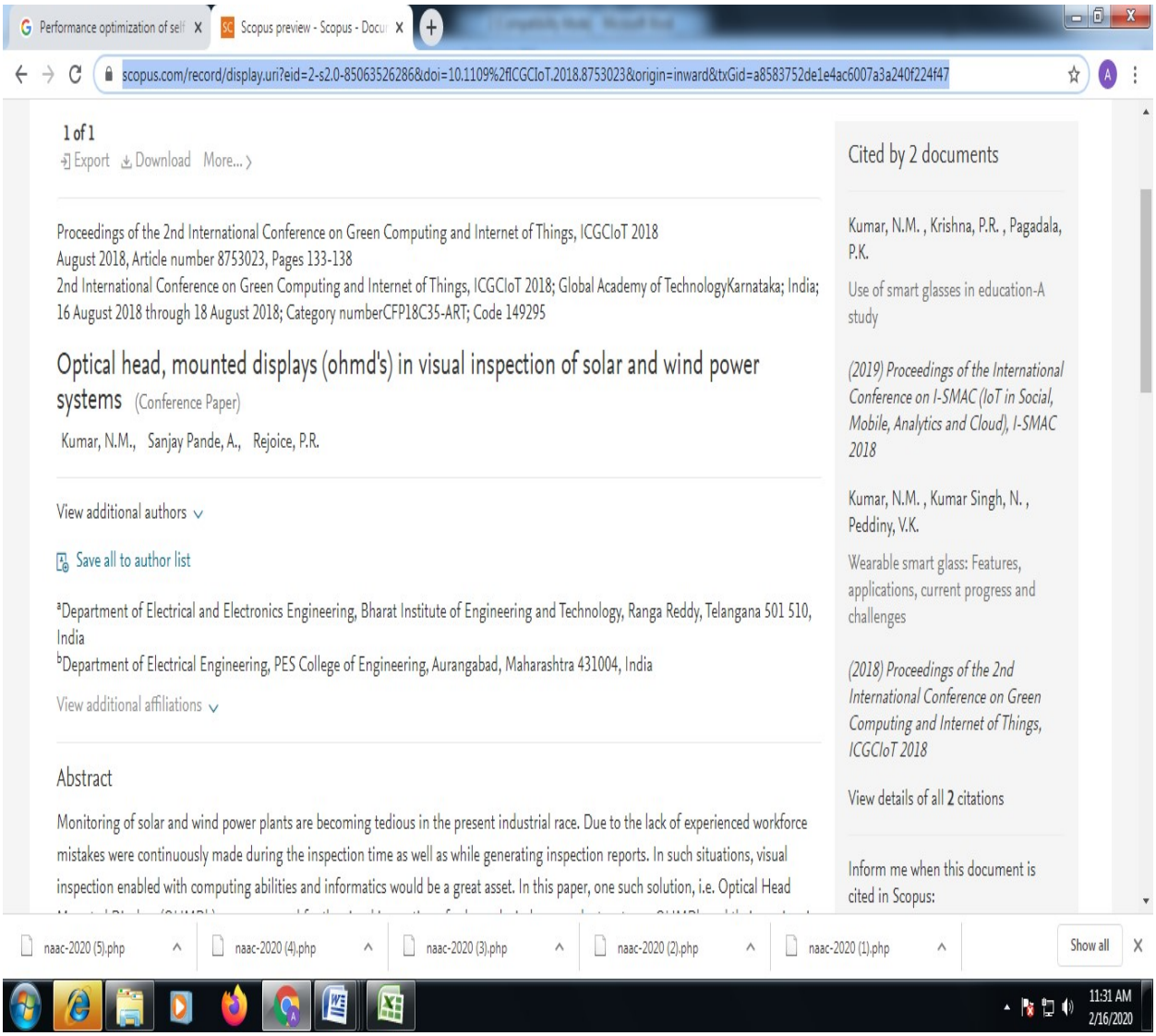

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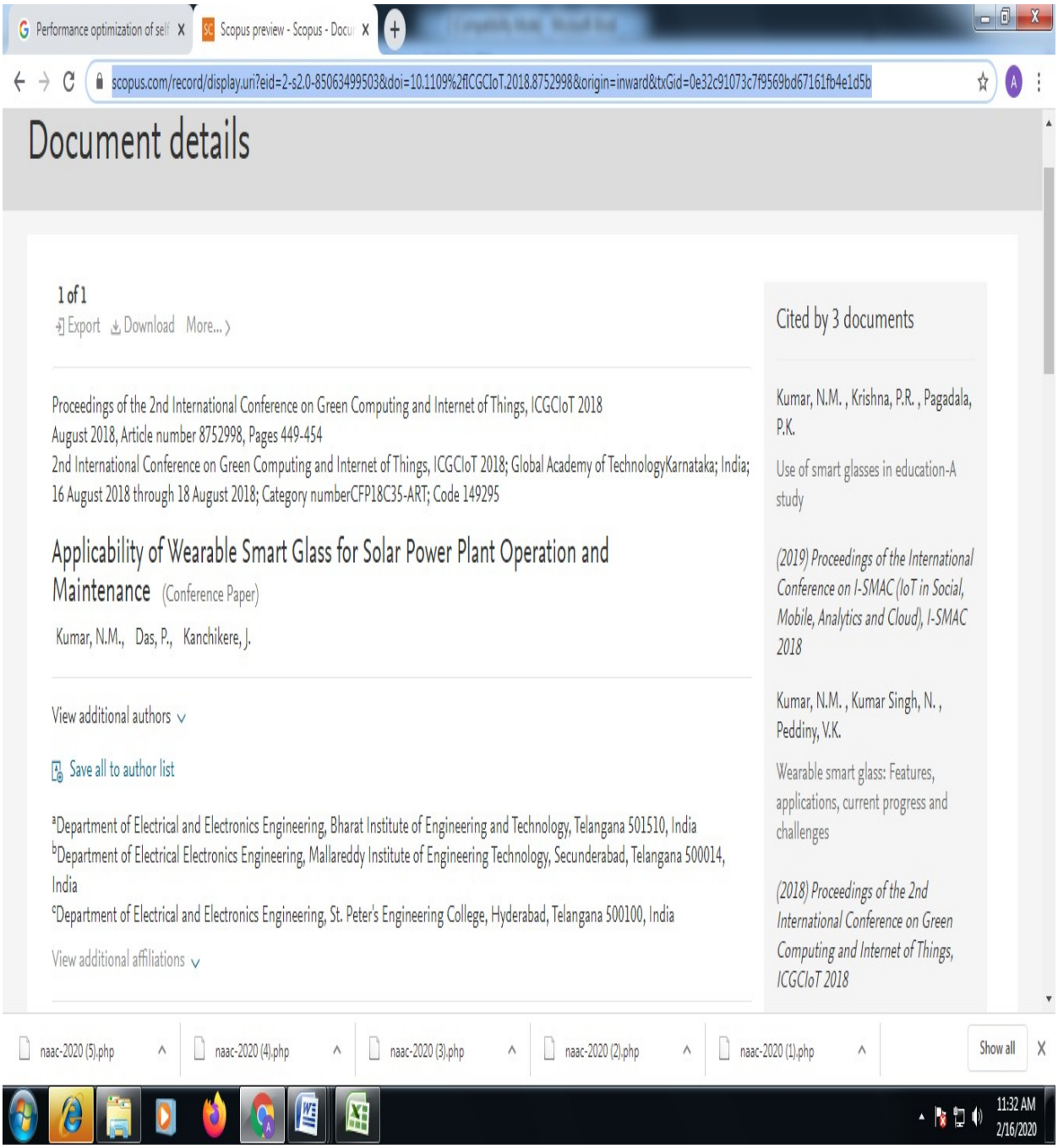

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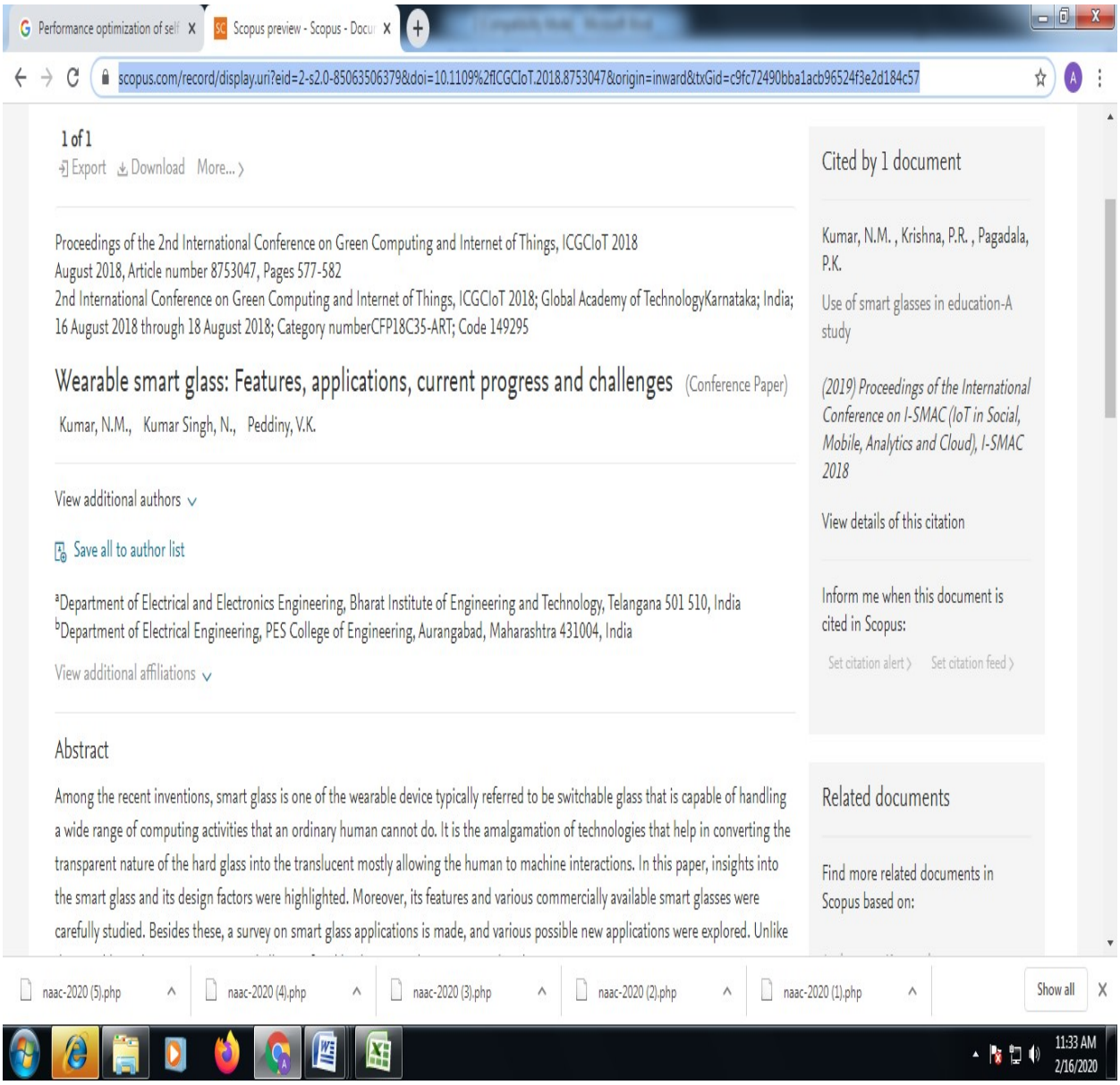

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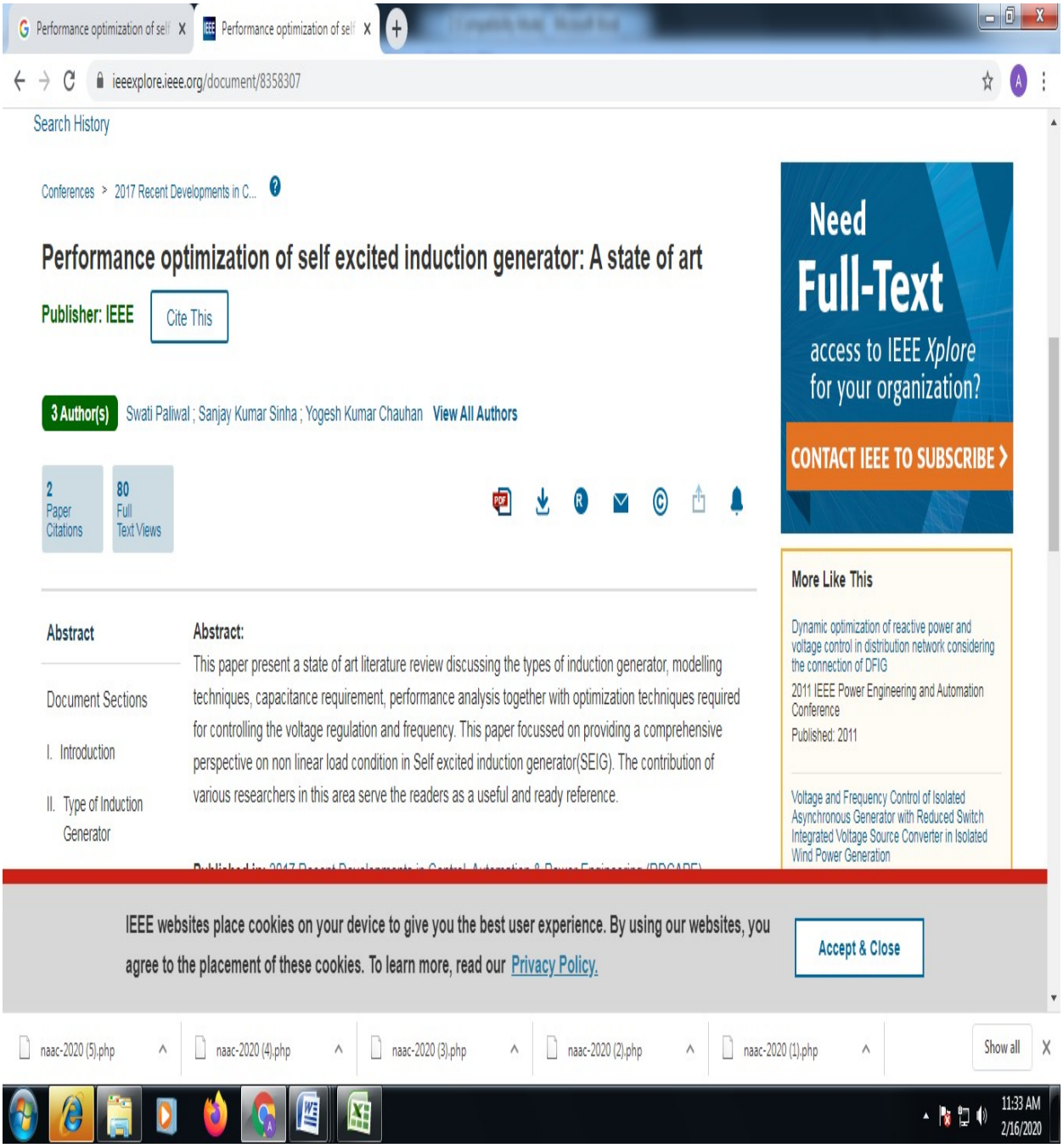

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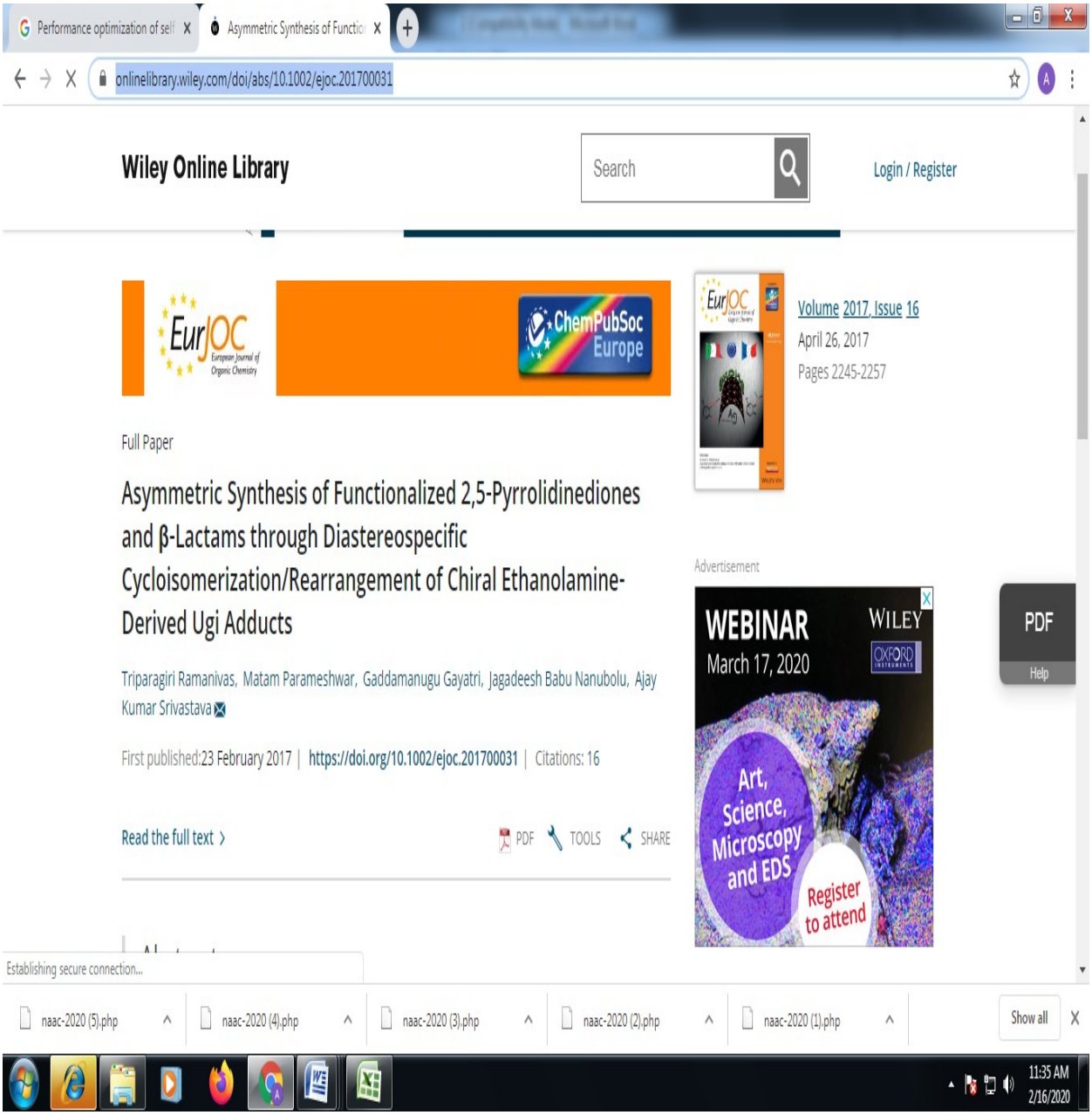

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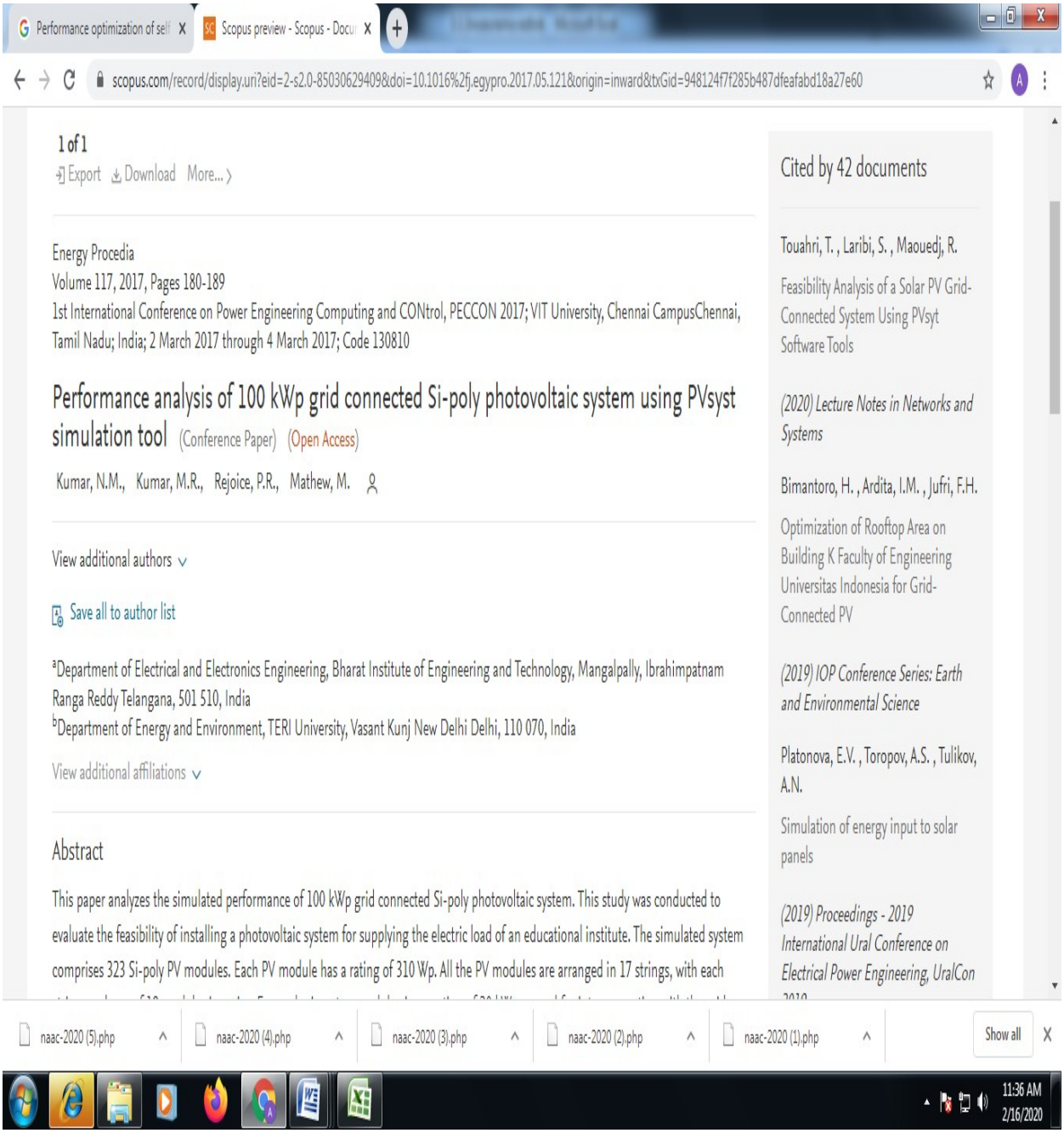

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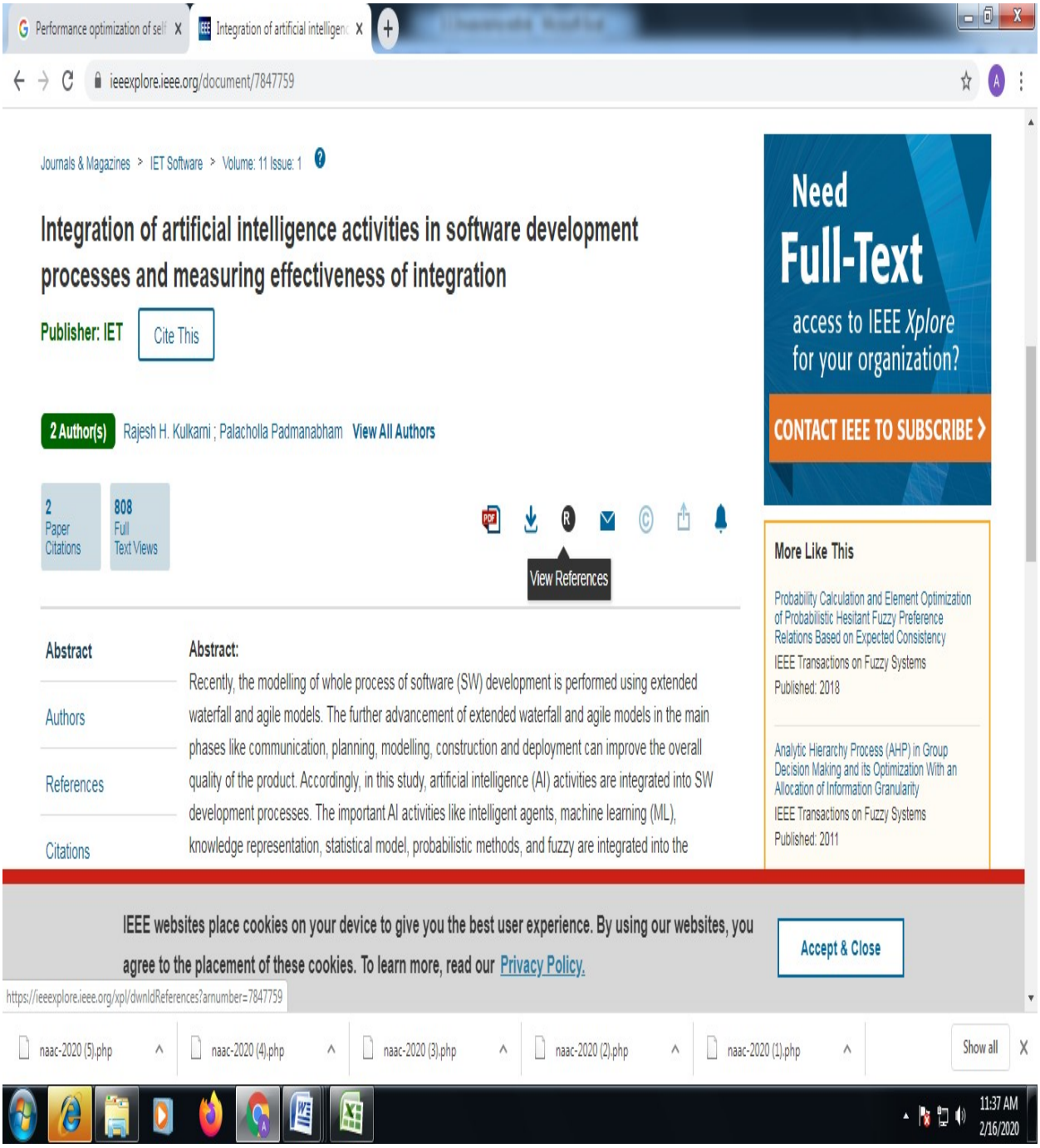

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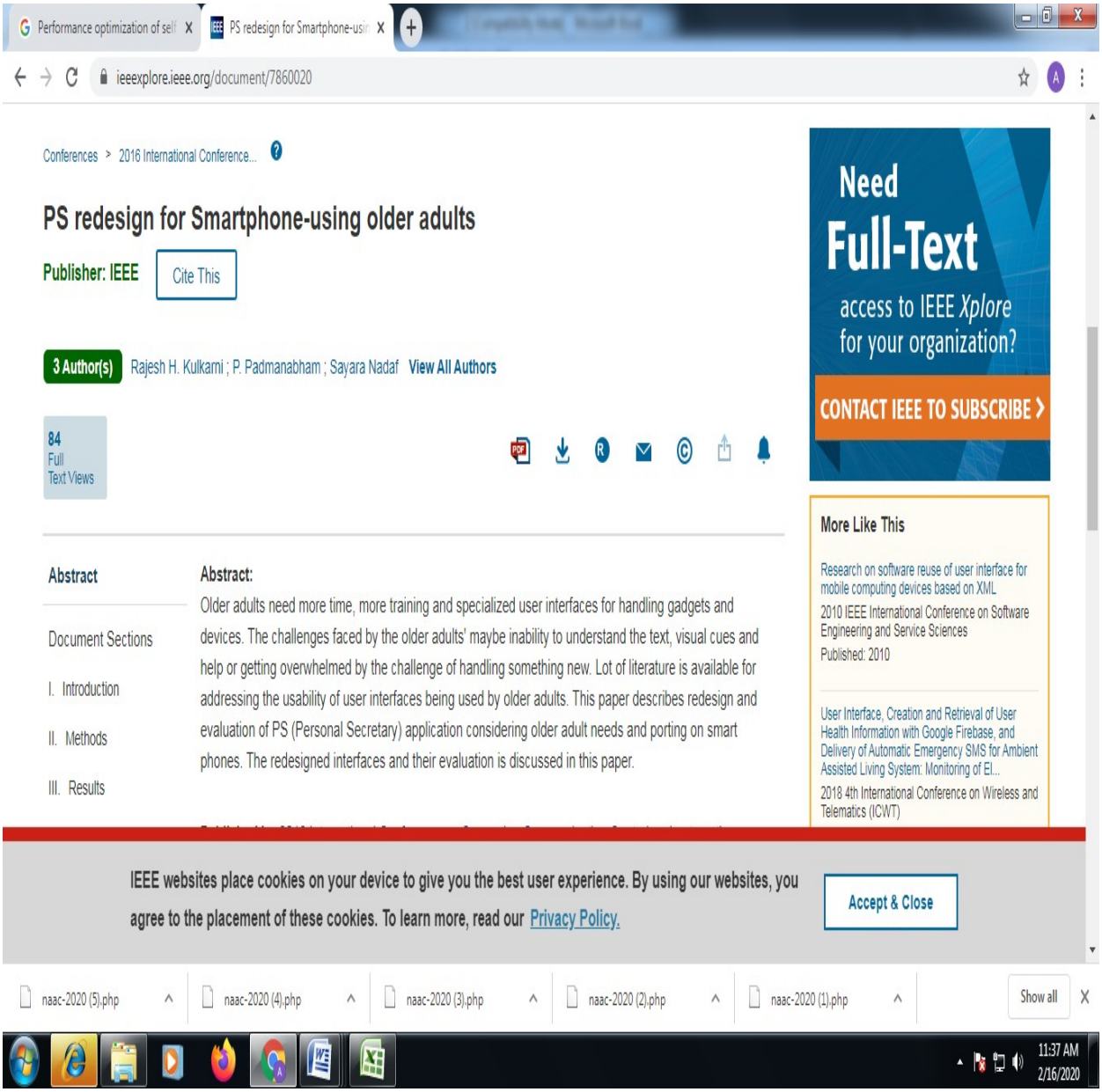

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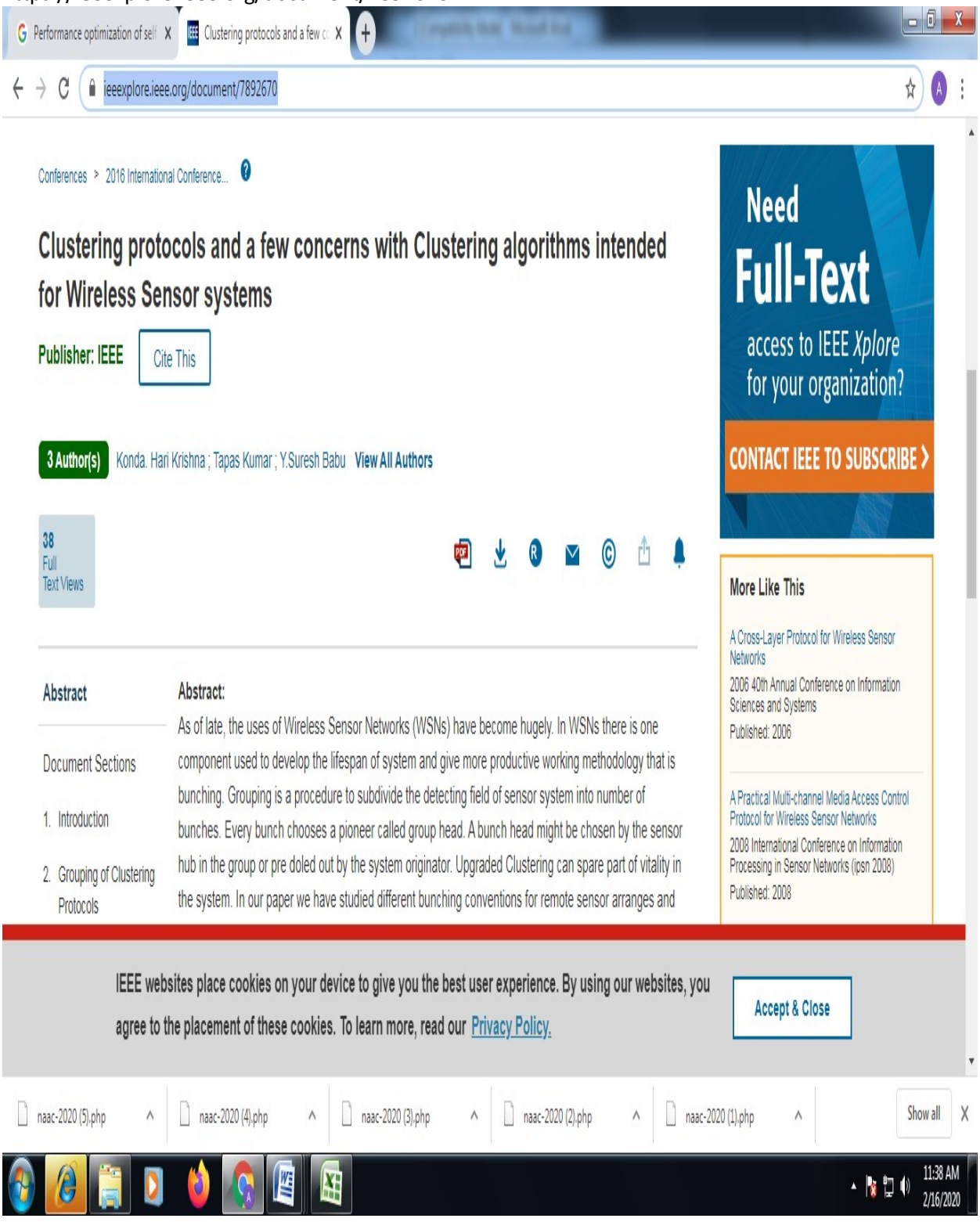

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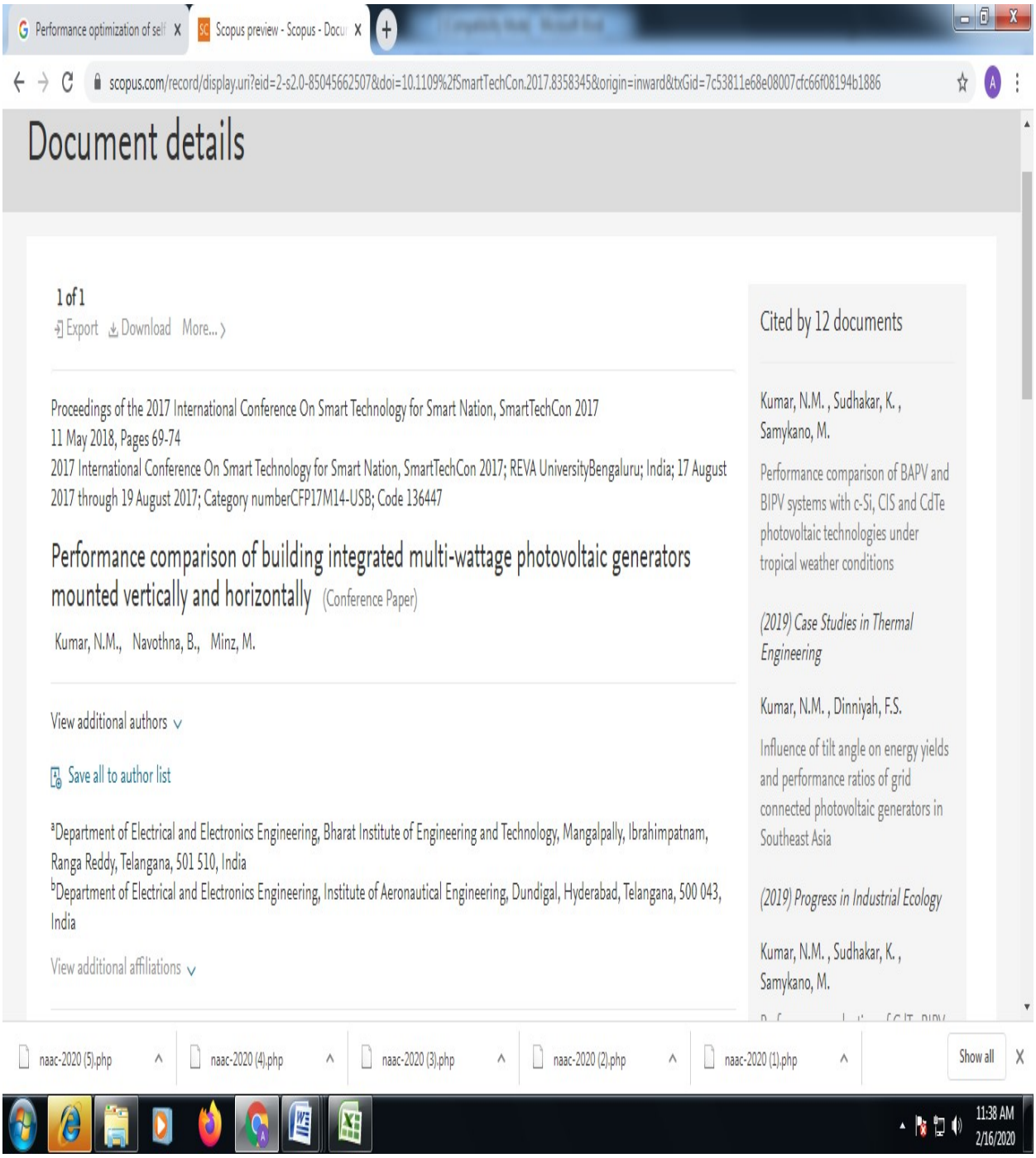

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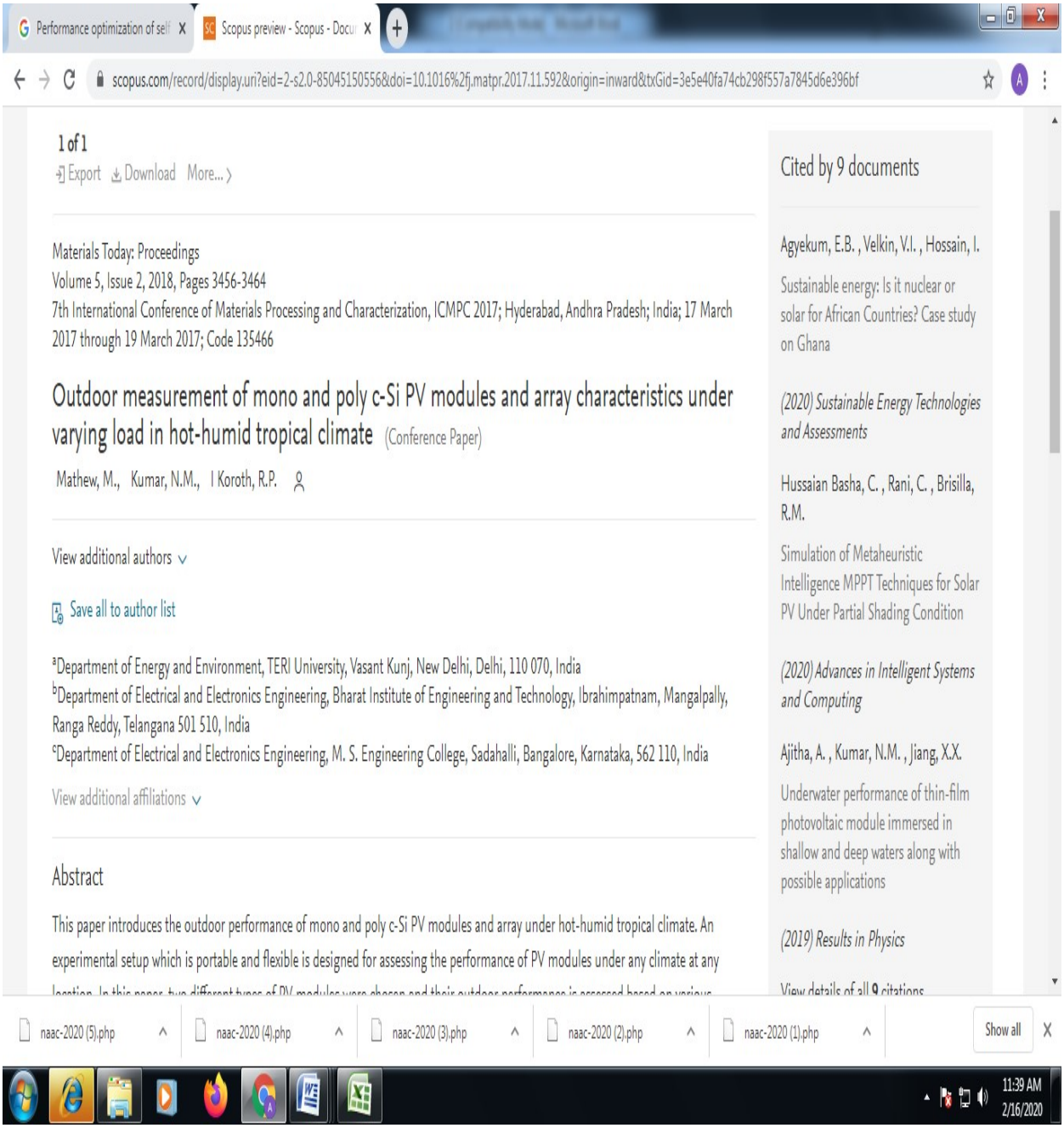

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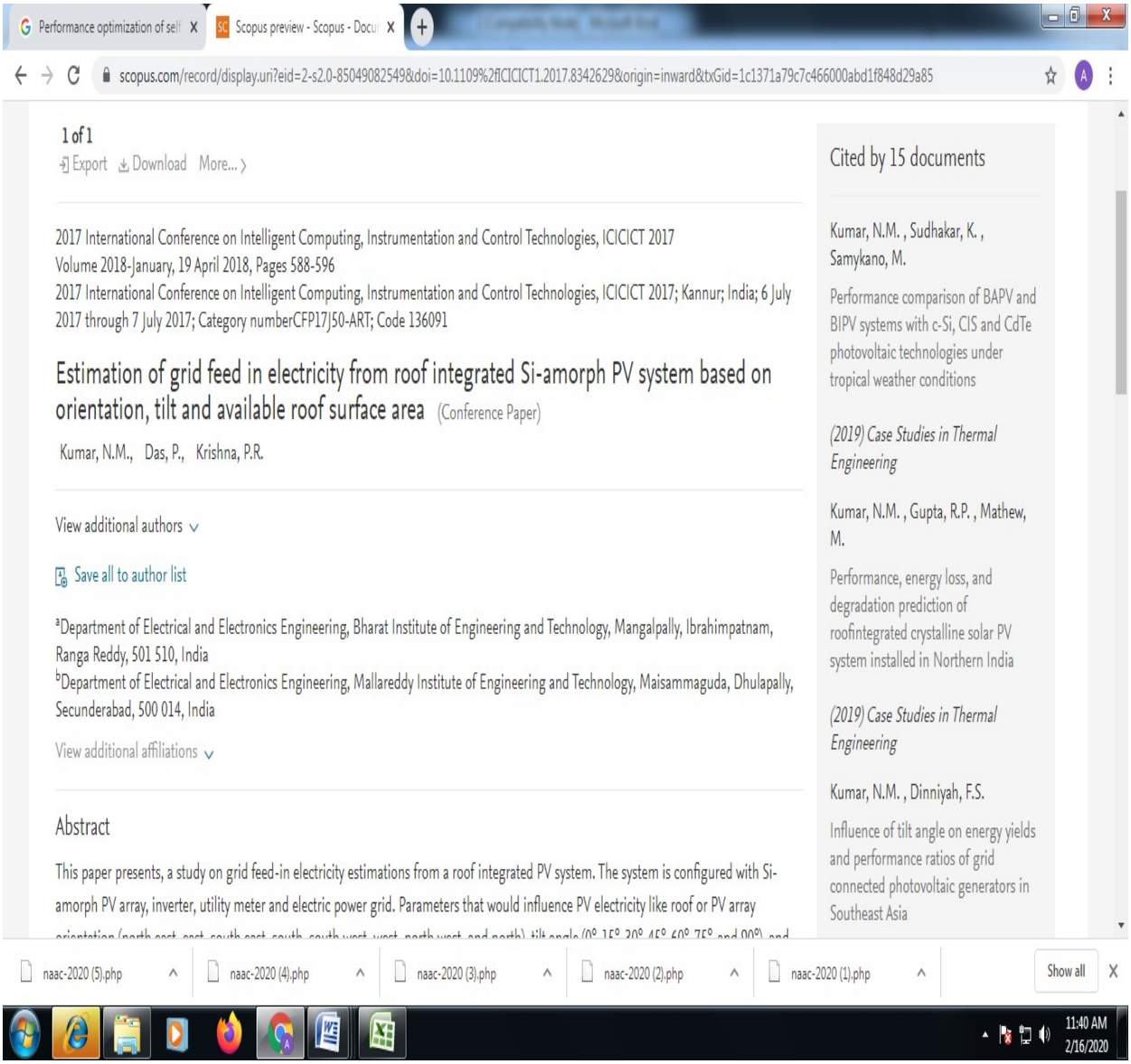

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Volume 2018-January, 19 April 2018, Pages 588-596
2017 International Conference on Intelligent Computing, Instrumentation and Control Technologies, ICICICT 2017; Kannur; India; 6 July 2017 through 7 July 2017; Category numberCFP17J50-ART; Code 136091

Estimation of grid feed in electricity from roof integrated Si-amorph PV system based on orientation, tilt and available roof surface area (Conference Paper)

Kumar, N.M., Das, P., Krishna, P.R.

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[a]Department of Electrical and Electronics Engineering, Bharat Institute of Engineering and Technology, Mangalpally, Ibrahimpatnam, Ranga Reddy, 501 510, India
[b]Department of Electrical and Electronics Engineering, Mallareddy Institute of Engineering and Technology, Maisammaguda, Dhulapally, Secunderabad, 500 014, India

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Abstract

This paper presents, a study on grid feed-in electricity estimations from a roof integrated PV system. The system is configured with Si-amorph PV array, inverter, utility meter and electric power grid. Parameters that would influence PV electricity like roof or PV array

Cited by 15 documents

Kumar, N.M. , Sudhakar, K. , Samykano, M.
Performance comparison of BAPV and BIPV systems with c-Si, CIS and CdTe photovoltaic technologies under tropical weather conditions
(2019) Case Studies in Thermal Engineering

Kumar, N.M. , Gupta, R.P. , Mathew, M.
Performance, energy loss, and degradation prediction of roofintegrated crystalline solar PV system installed in Northern India
(2019) Case Studies in Thermal Engineering

Kumar, N.M. , Dinniyah, F.S.
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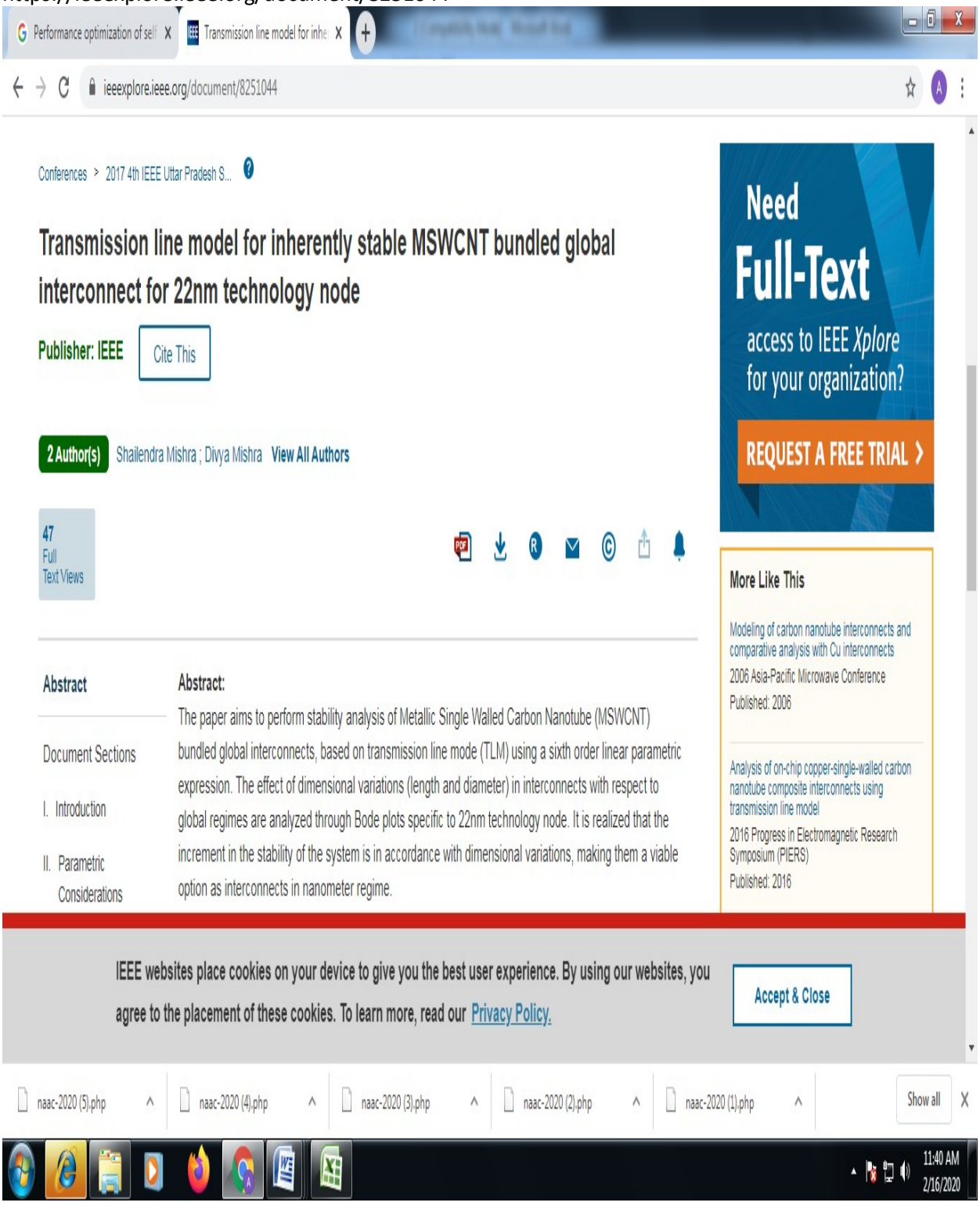

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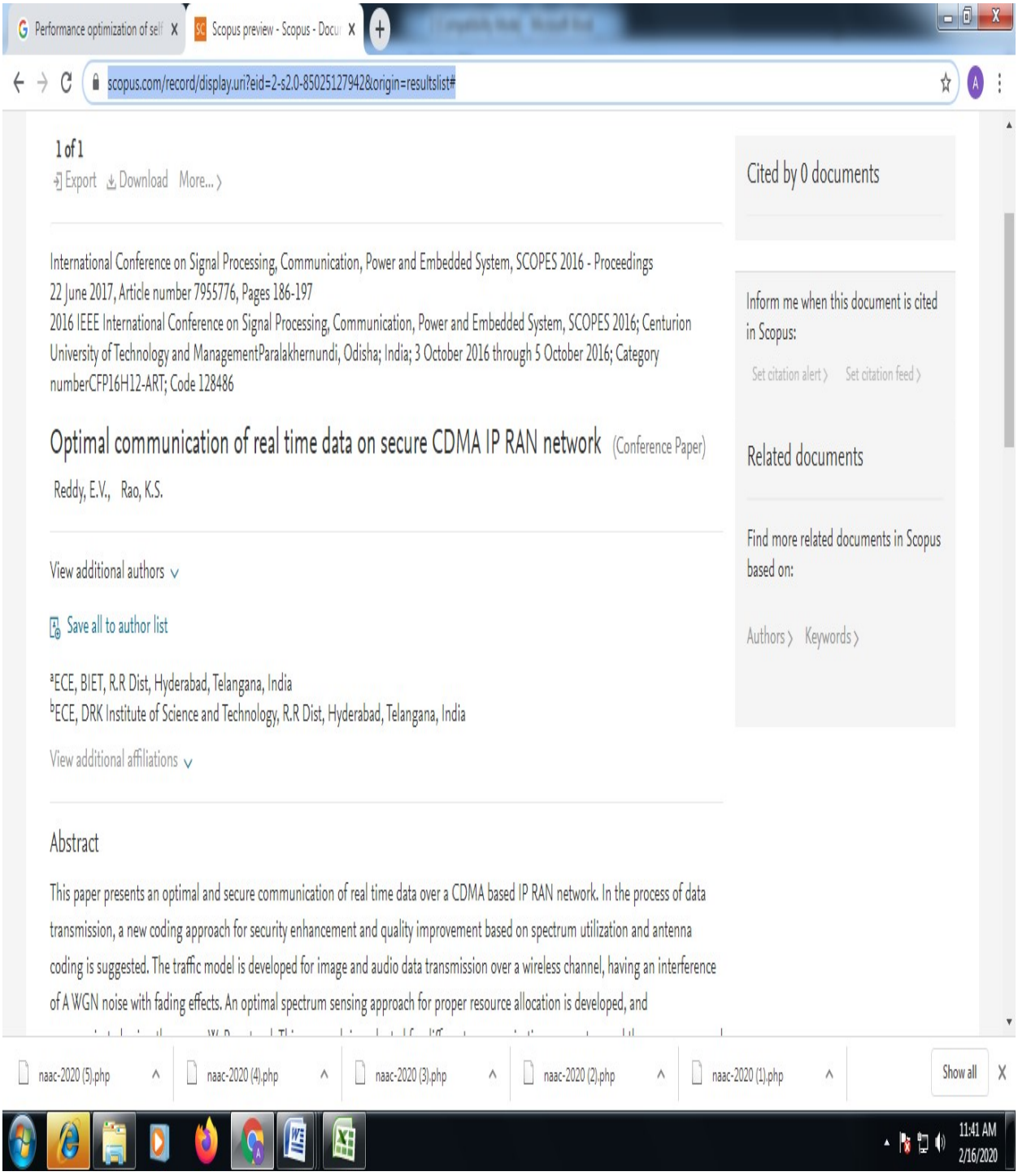

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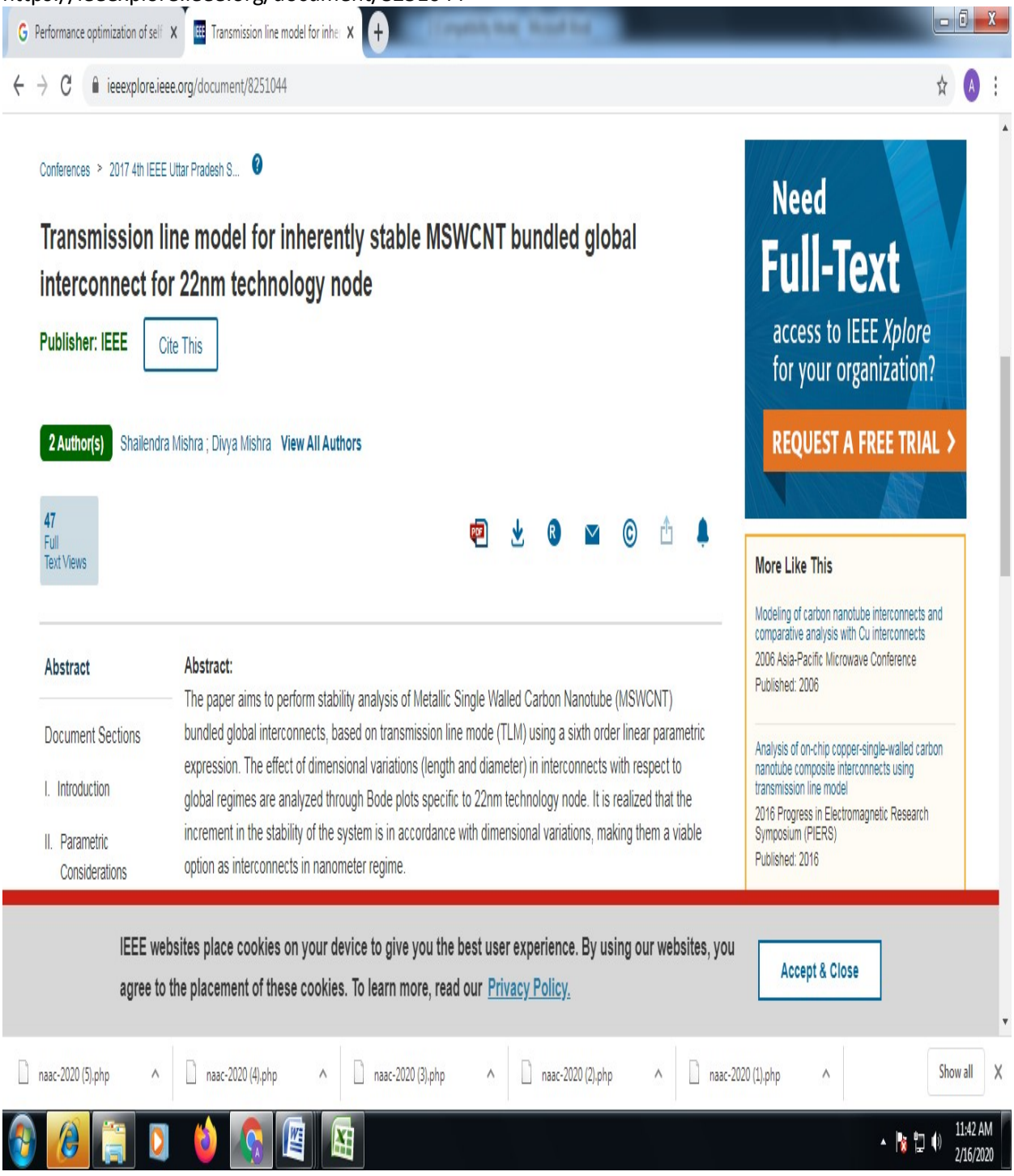

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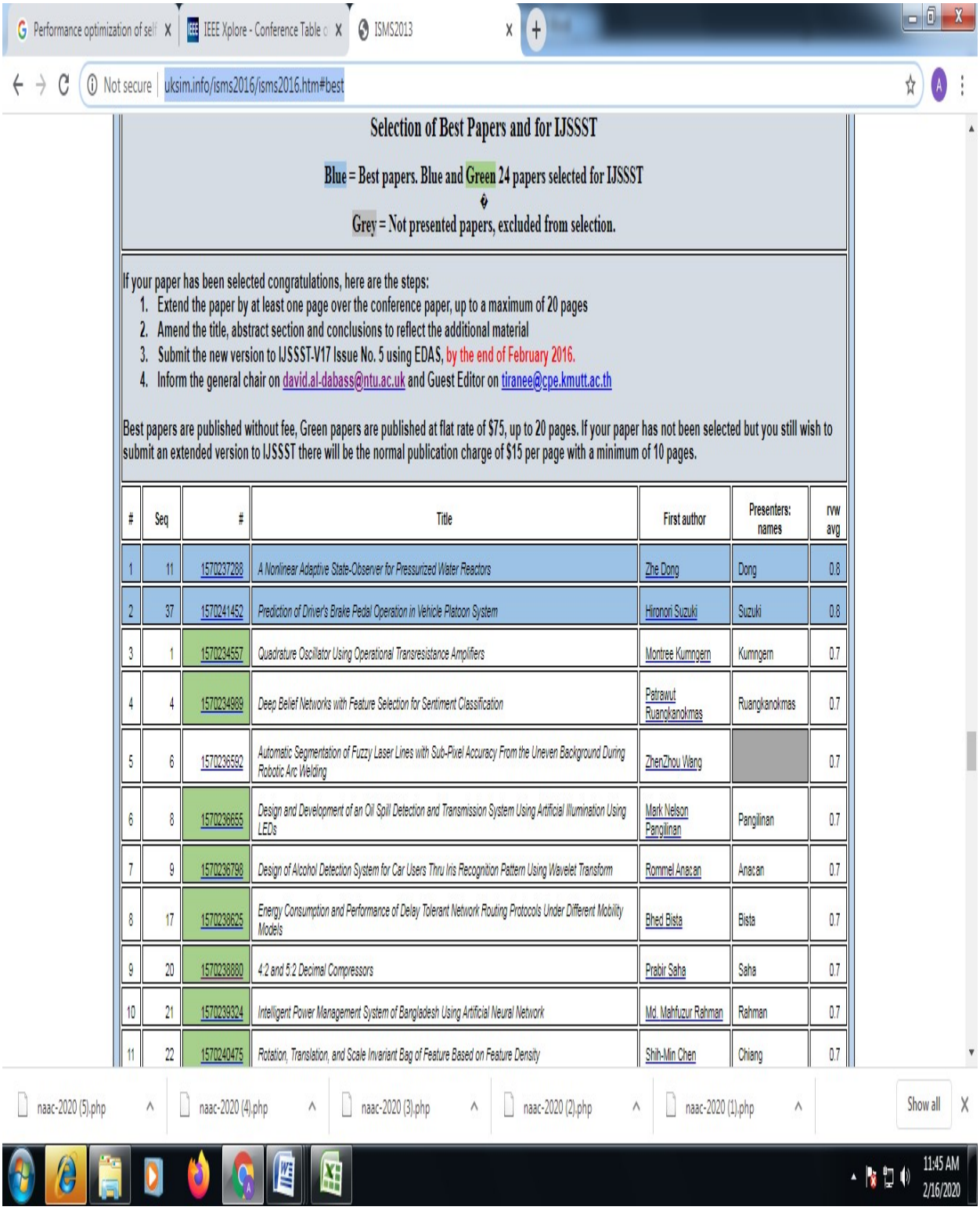

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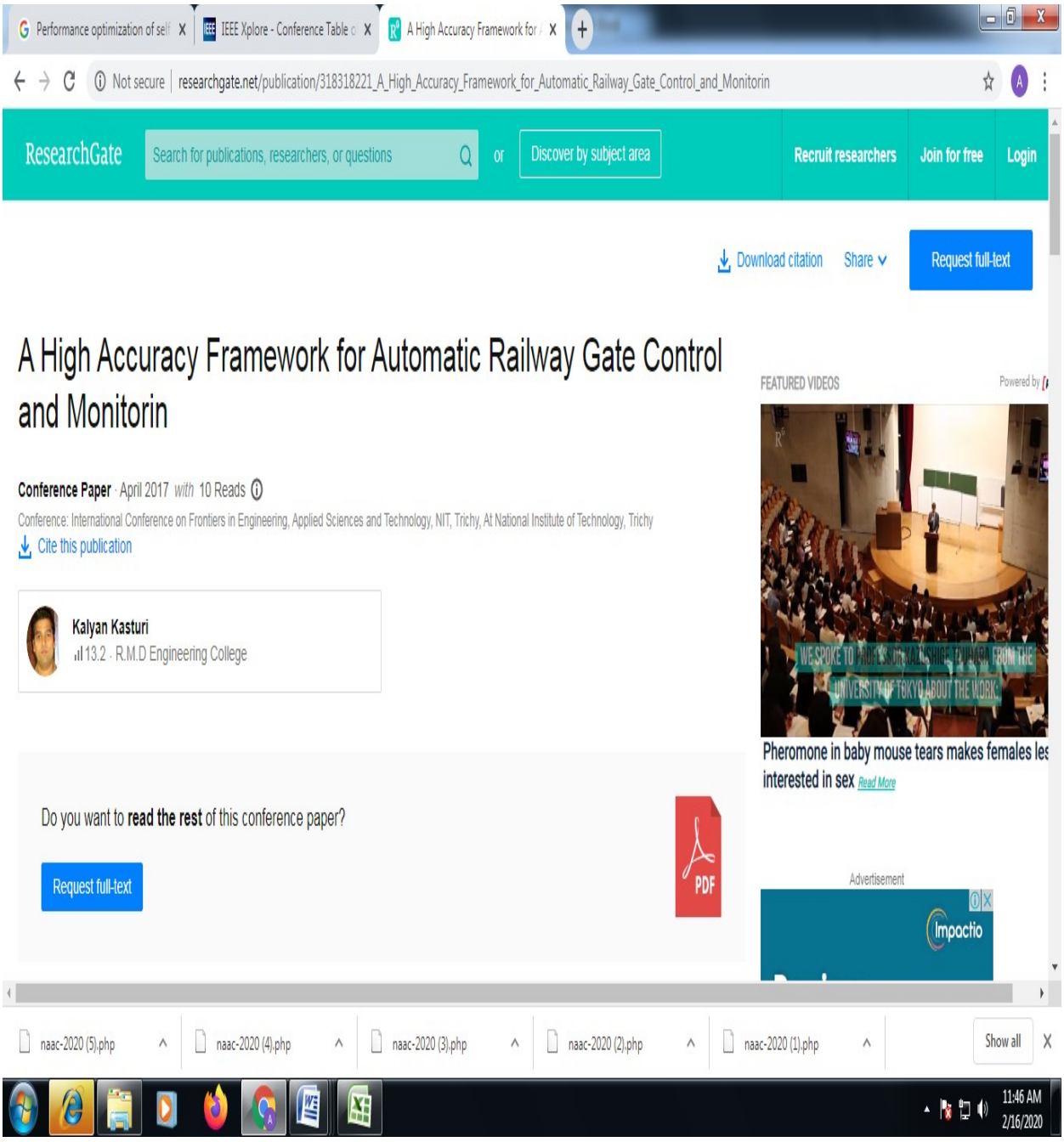

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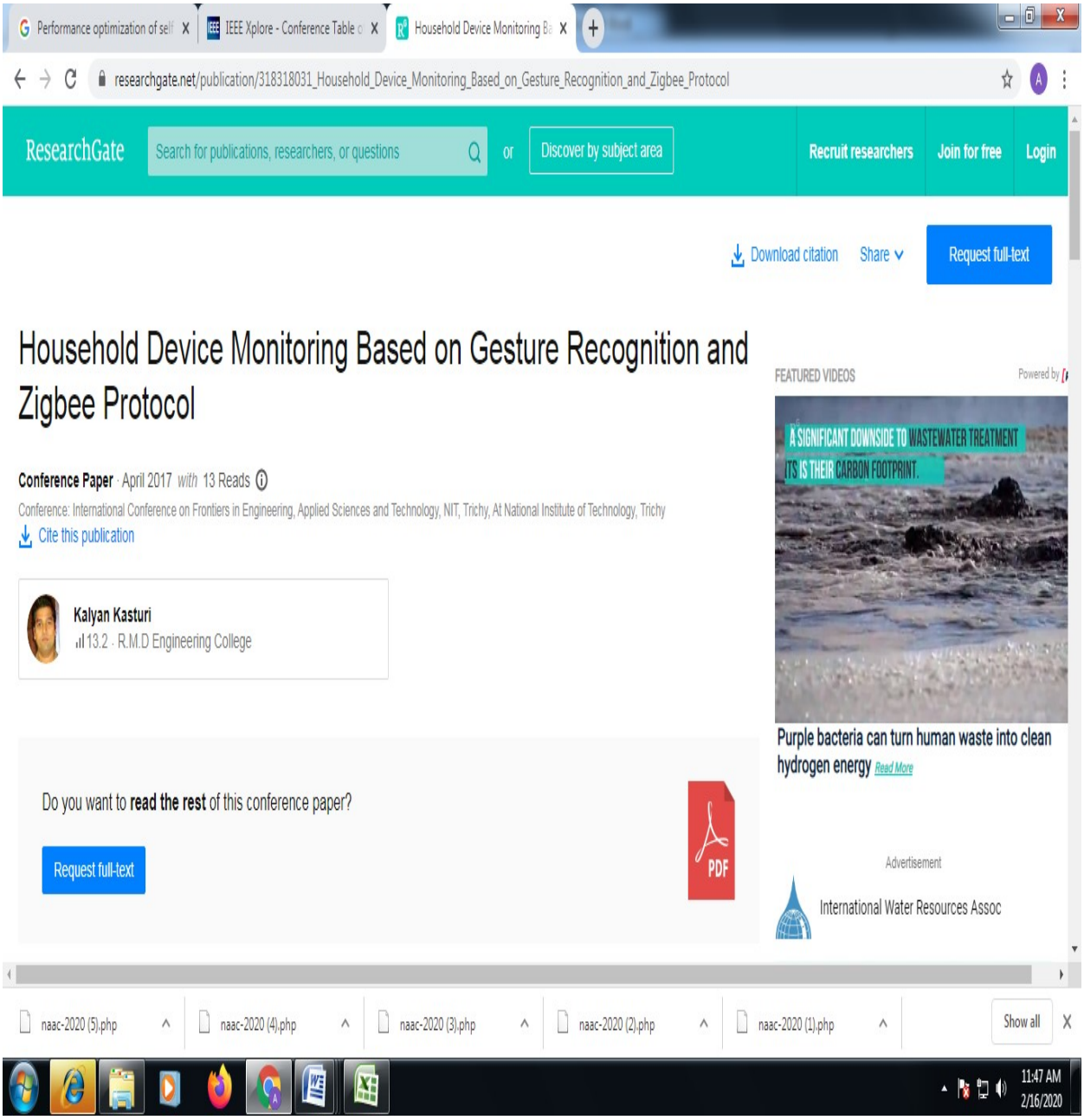

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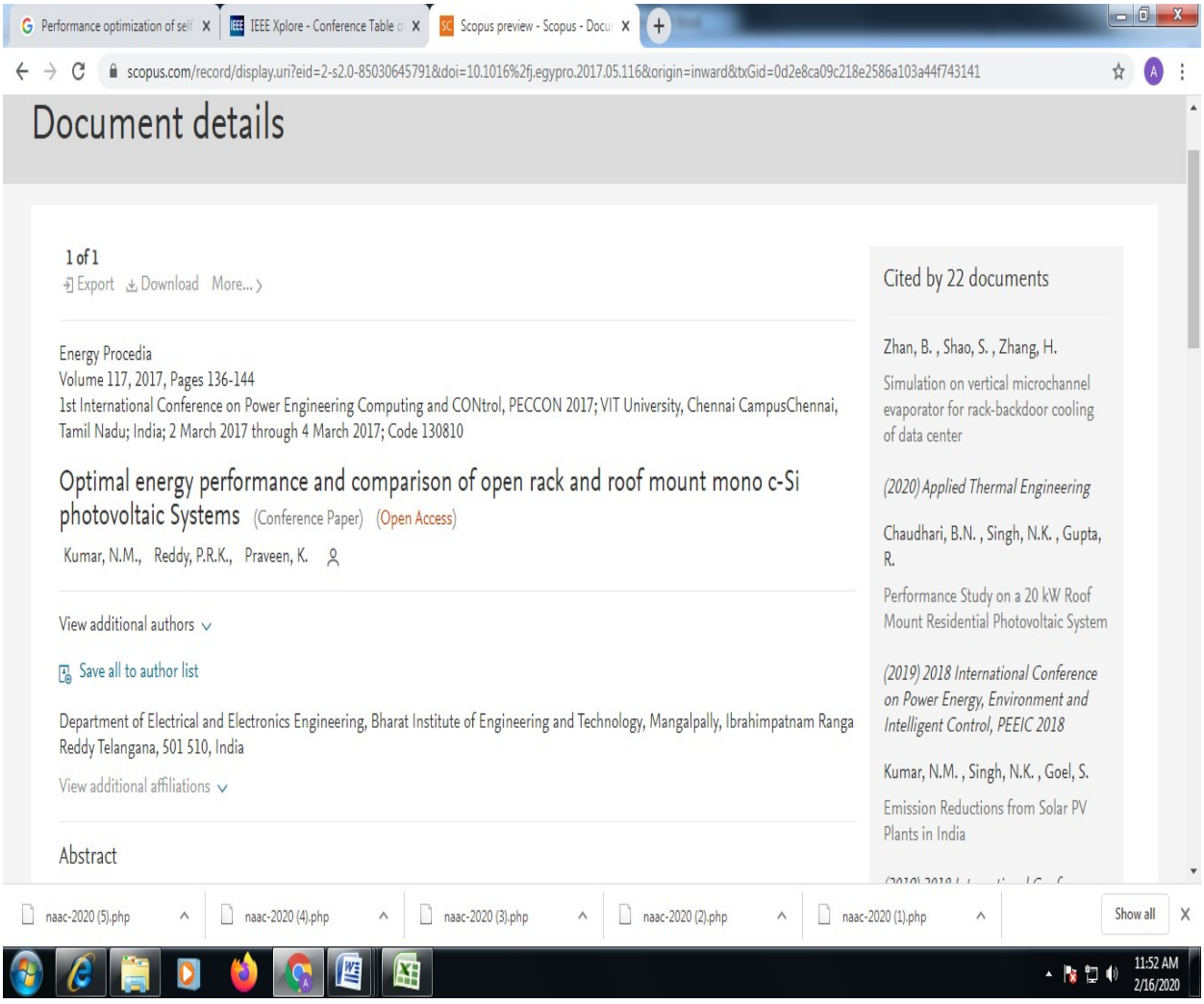

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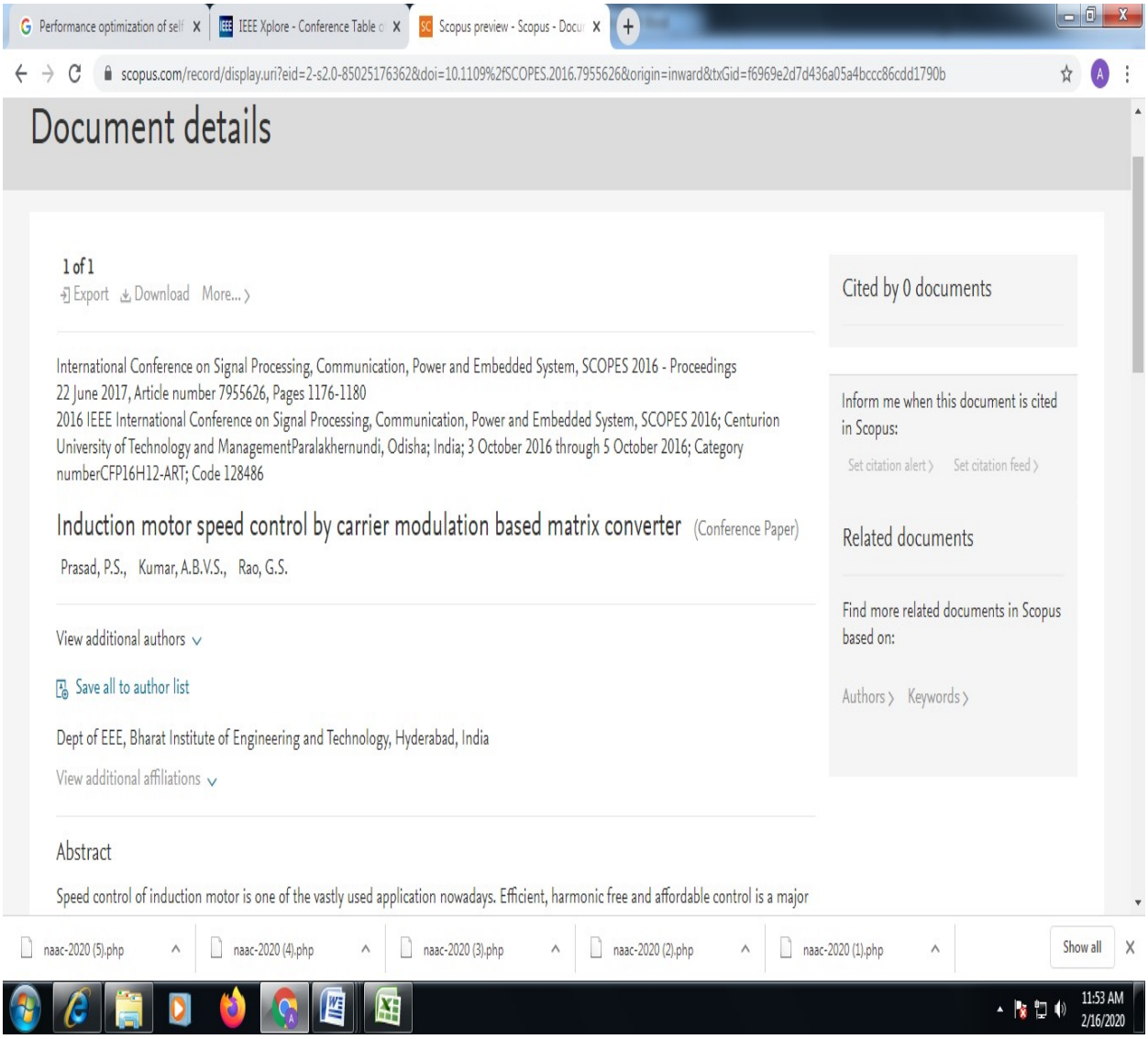

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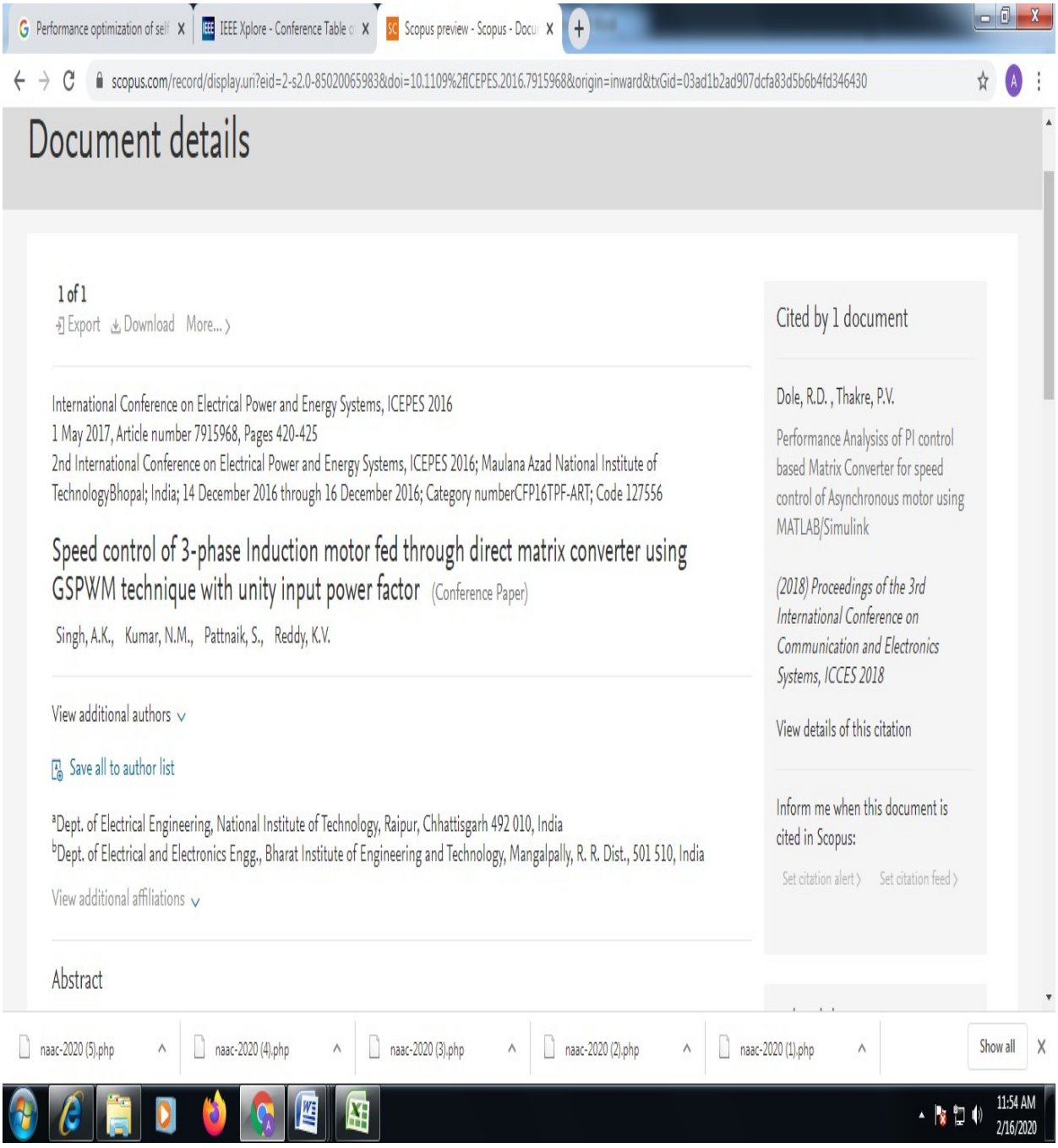

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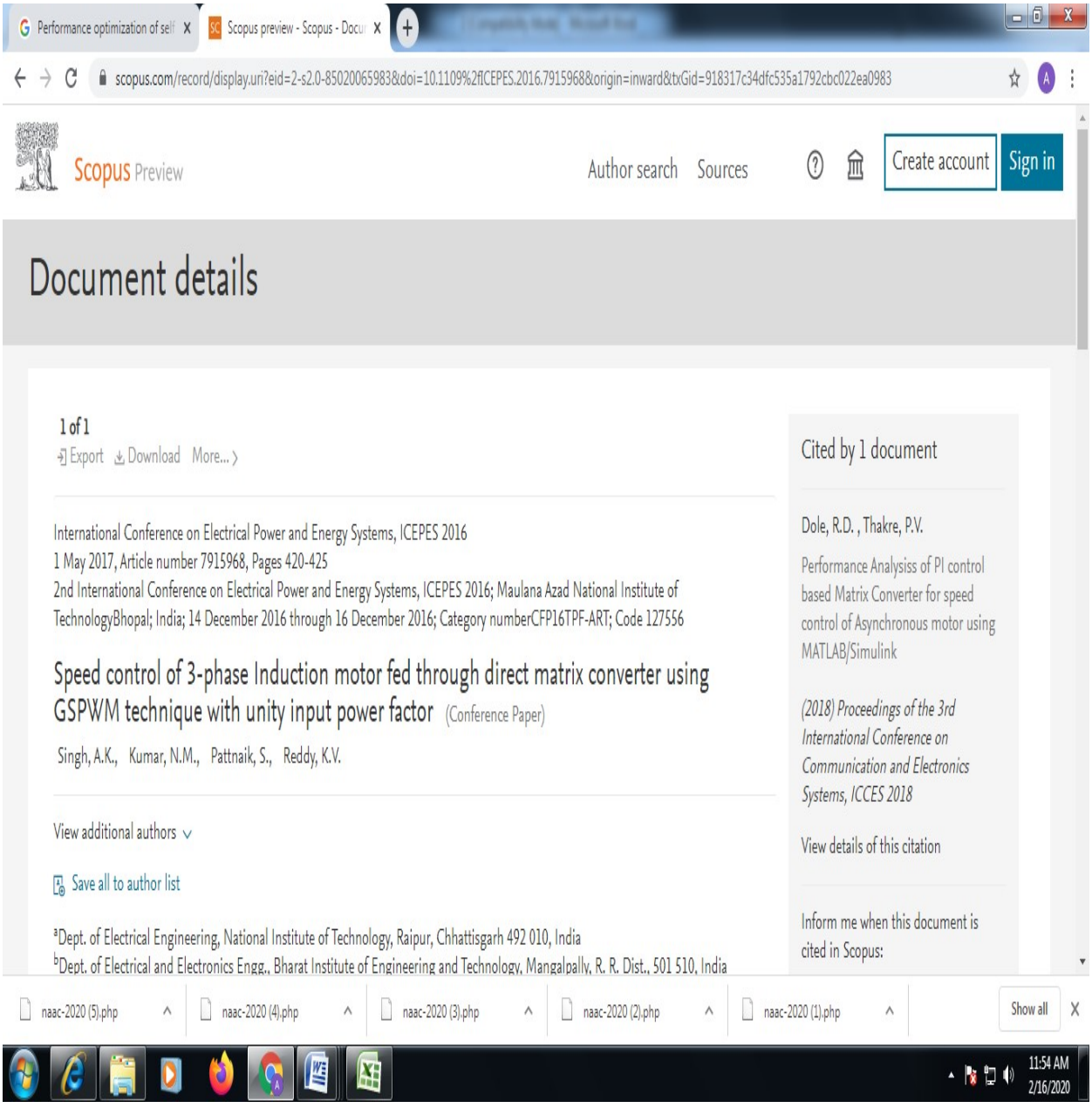

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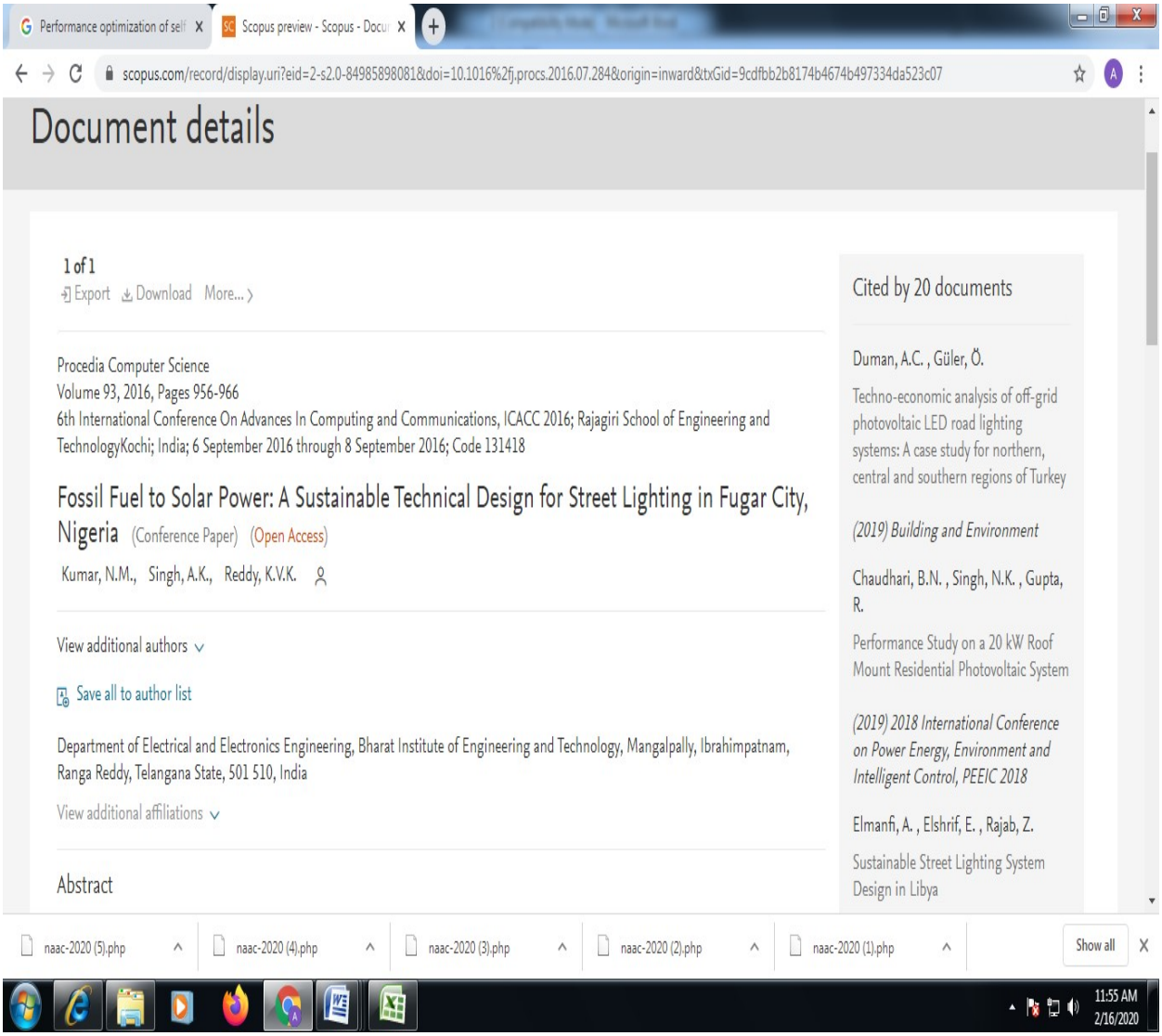

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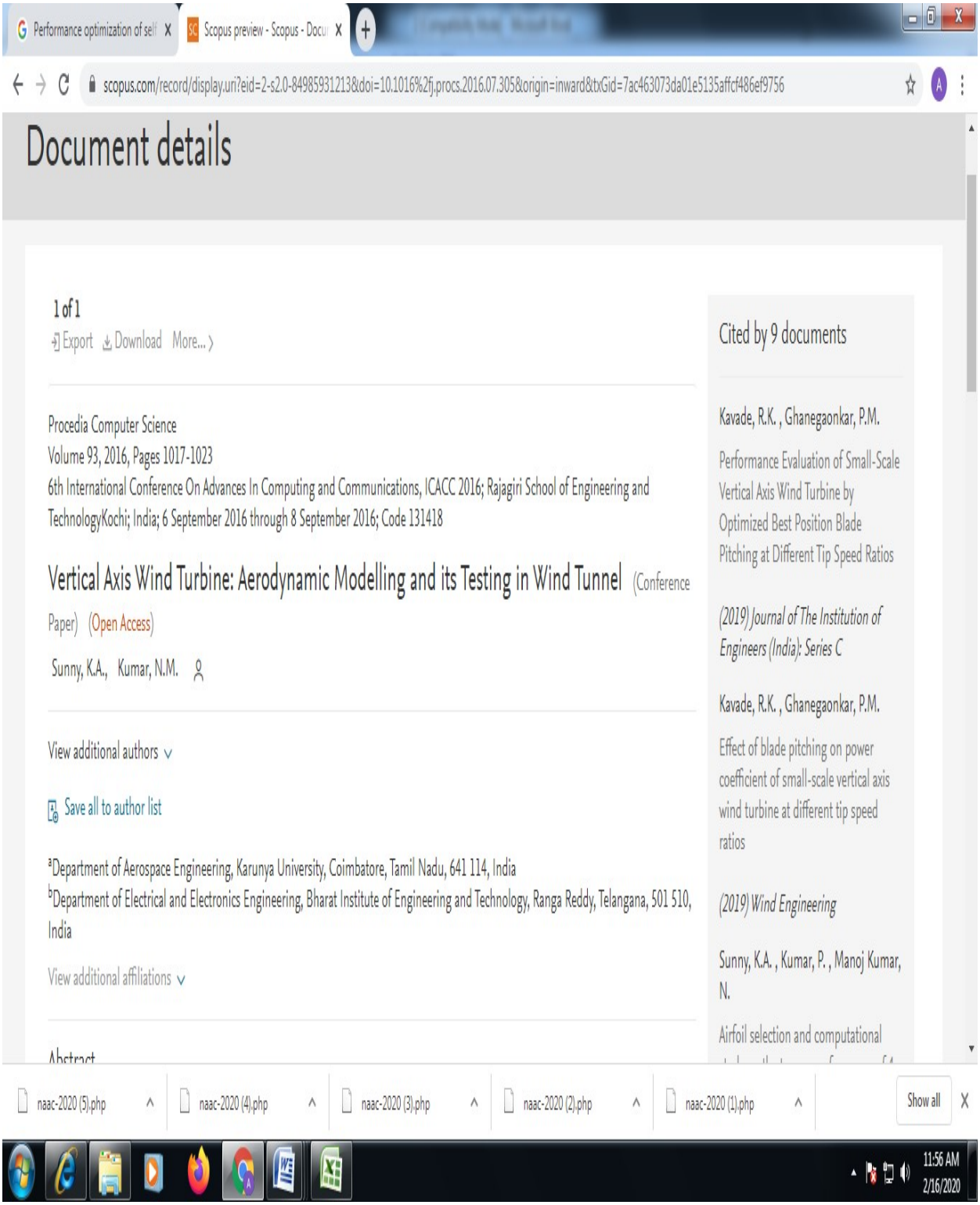

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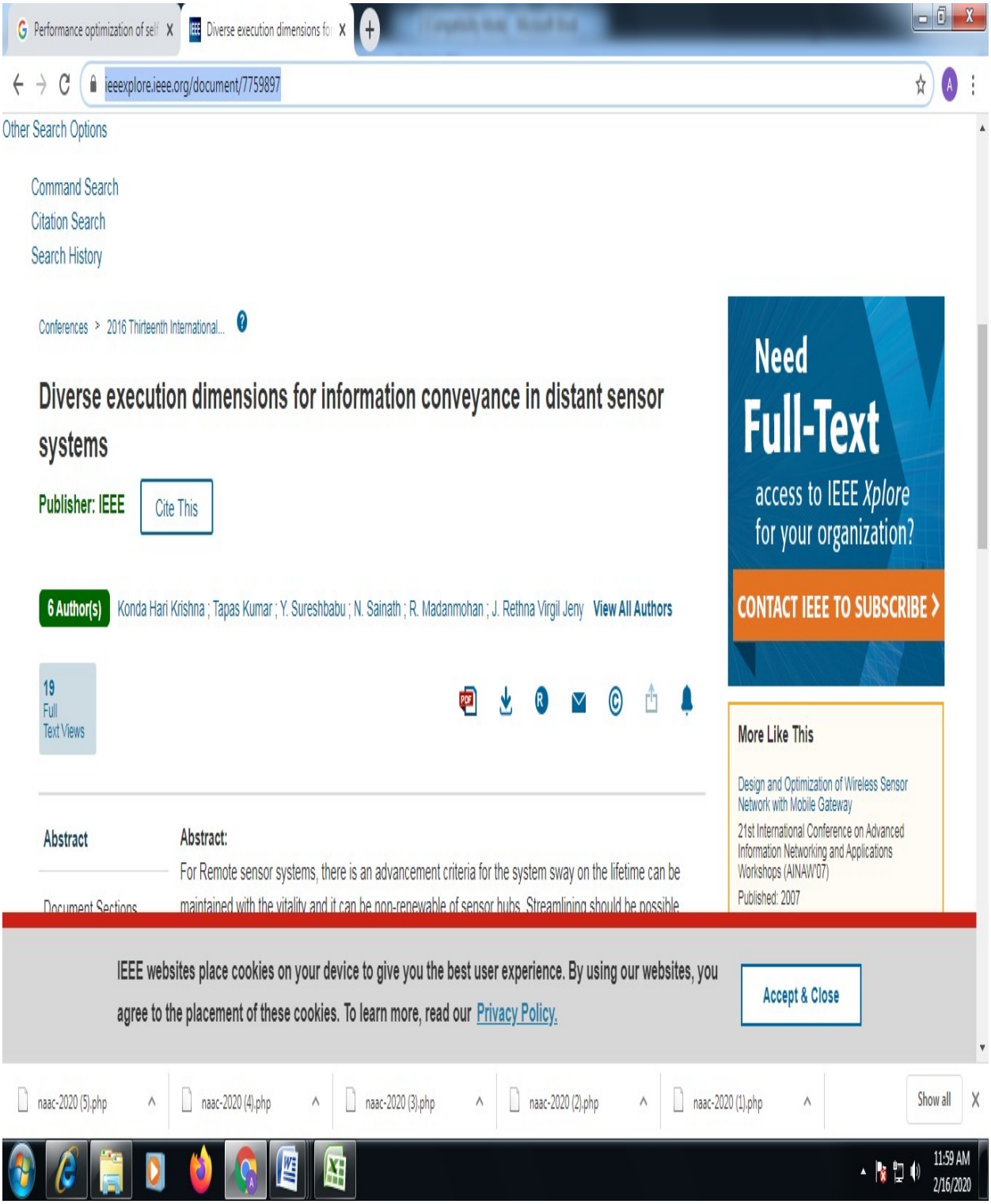

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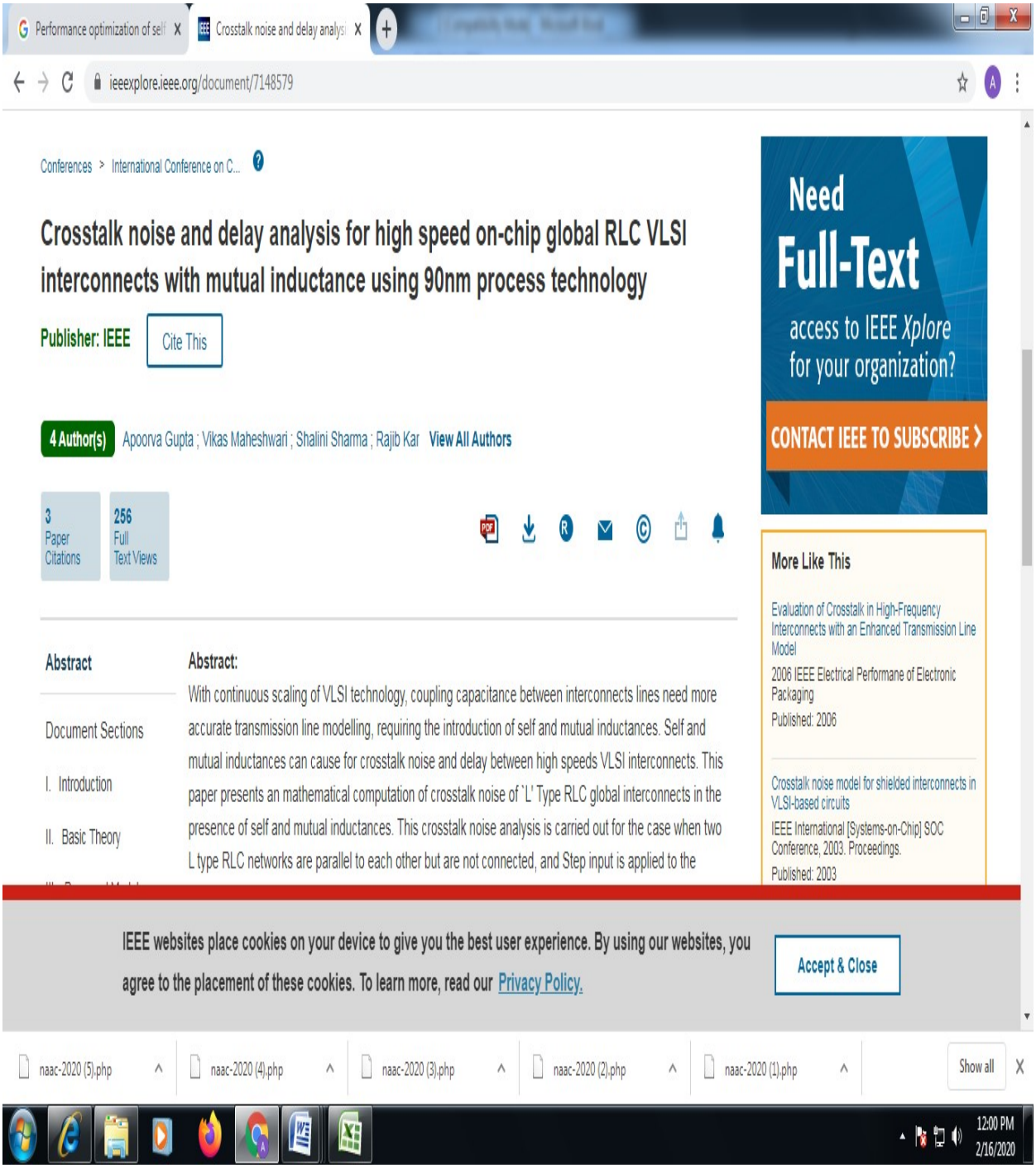

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Chairman: **C V S Sastry,** OS & Director, ANURAG,DRDO	031R063	**Radio Emitter Threat Degree Judgment Based On Machine Learning Algorithms** By Sasanka, Kr Biswas & G. Siva Prasad, Defence Electronics Research Laboratory, Hyderabad	11:10
	031	**Model based design and EW component library based approach for fast development cycles in FPGA dominant architectures** By K.Srinivasa Raju CEO, Unistring Tech Solutions Pvt. Ltd, Hyderabad	11:30 to 11:50 Hrs
Co Chairman: **Anupam Sharma,** Scientist G, DLRL	067R068	**Information Exchange Through Replication - An EW Perspective** By CP Amulya , Ravi Tudu, S.K.Gupta, & CS Krishna Kumar, Defence Electronics Research Laboratory, DRDO, Hyderabad	11:50 to 12:10 Hrs
Duration: 11:10 to 12:30 Hrs	075R092	**Comprehensive study and simulation for Flexible Adaptation Scheme Based Smart Spectrum Sensing in Cognitive Radio Networks** By Somyajit Choudhury and K Krishna Naik,Communication Laboratory, Department of Electronics Engineering, Defence Institute of Advanced Technology, Pune	12:10 to 12:30 Hrs
12:30 to 13:30 : Lunch Break			
13:30 to 14:30 Hrs : Time to Visit Technical Exhibition			
Session 12		**EW SYSTEMS AND DF TECHNIQUES – II**	
Chairman: **J M Pascual Ruiz,** Indra, Spain	057R049	**Implementation of IQ based frequency and direction finding algorithm in FPGAs** By V V S R Raju, Sounak Samanta, Deepti Agrawal, Dr. A K Sing, M.K.Das, Defence Electronics Research Laboratory, DRDO, Hyderabad	15:00 to 15:20 Hrs
	004R017	**Geolocation Of An EM Emitter Using ES Sensors Mounted On Naval Frigates** By Prof. G. Kumaraswamy Rao, Director R&D, BIET, Hyderabad	15:20 to 15:40 Hrs
Co Chairman: **MK Das,** Scientist G, DLRL	053R050	**Factors Affecting Baseline Interferometric Direction Finding Accuracy** By Deepti Agrawal, J.Vijayalakshmi, P.Papaji, Y.Uttara Kumari, Dr. A.K Singh & O.K.Singh, Defence Electronics Research Laboratory, DRDO, Hyderabad	15:40 to 16:00 Hrs
Duration: 15:00 to 16:20 Hrs	073R090	**Implementation of Fast Analog AGC in TDMA Application** By Vasudha Chattannavar, Ajay Tomar , Arpana M K & G Rambabu, Bharat Electronics Limited, Jalahalli Post, Bangalore	16:00 to 16:20 Hrs
16:20 to 16:40 : Tea Break			
Session 15		**COMMUNICATION EW AND RCIED – II**	
Chairman: **David Lazaro,** Indra, Spain	032	**Synchronization issues and Adhoc network based wireless radio architectures for multi node Military Communications** By M. Siva Kumar Application Engineer, & K.Srinivasa Raju CEO, Unistring Tech Solutions Pvt. Ltd, Hyderabad	16:40 to 17:00 Hrs
Co Chairman: **O K Singh,** Scientist G, DLRL	003R030	**Universal Data Communication System for Aerostat based surveillance systems** By N. Kumara Swamy, Gunvanta V. Mate and Arun Kumar H H , BEL, Bangalore	17:00 to 17:20 Hrs
	039R067	**Factors Effecting Message Fidelity in Real Time Follow on Monitoring for Frequency Hopped Spread Spectrum** By Mr. Kumar Gautam, M. Madhu Sudhan Reddy & Mr. Lalit Kumar, Defence Electronics Research Laboratory, DRDO, Hyderabad	17:20 to 17:40 Hrs
Duration: 16:40 to 18:00 Hrs	014R072	**Modified Turbo Equalization for HF Modem**	17:40 to 18:00 Hrs

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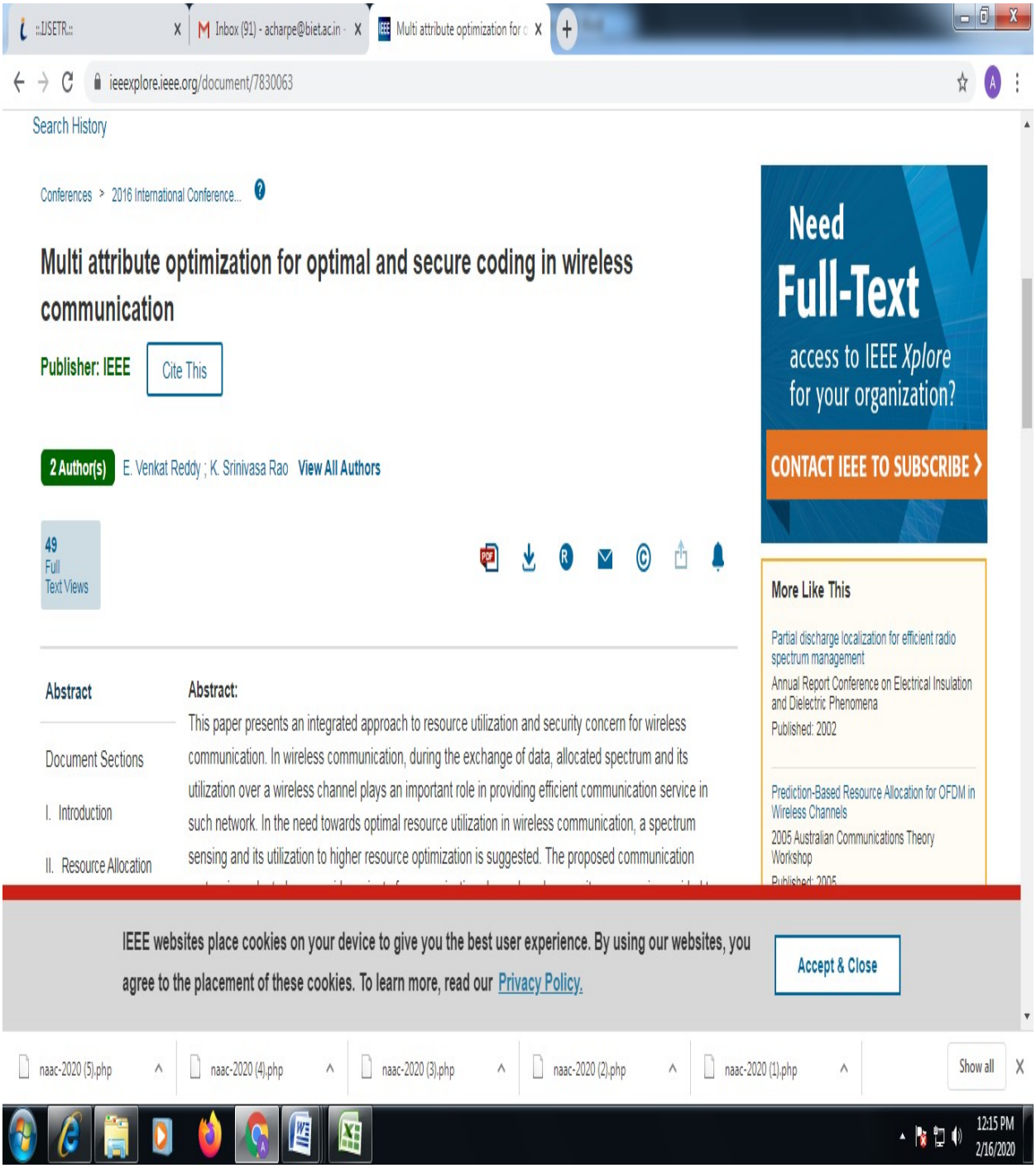

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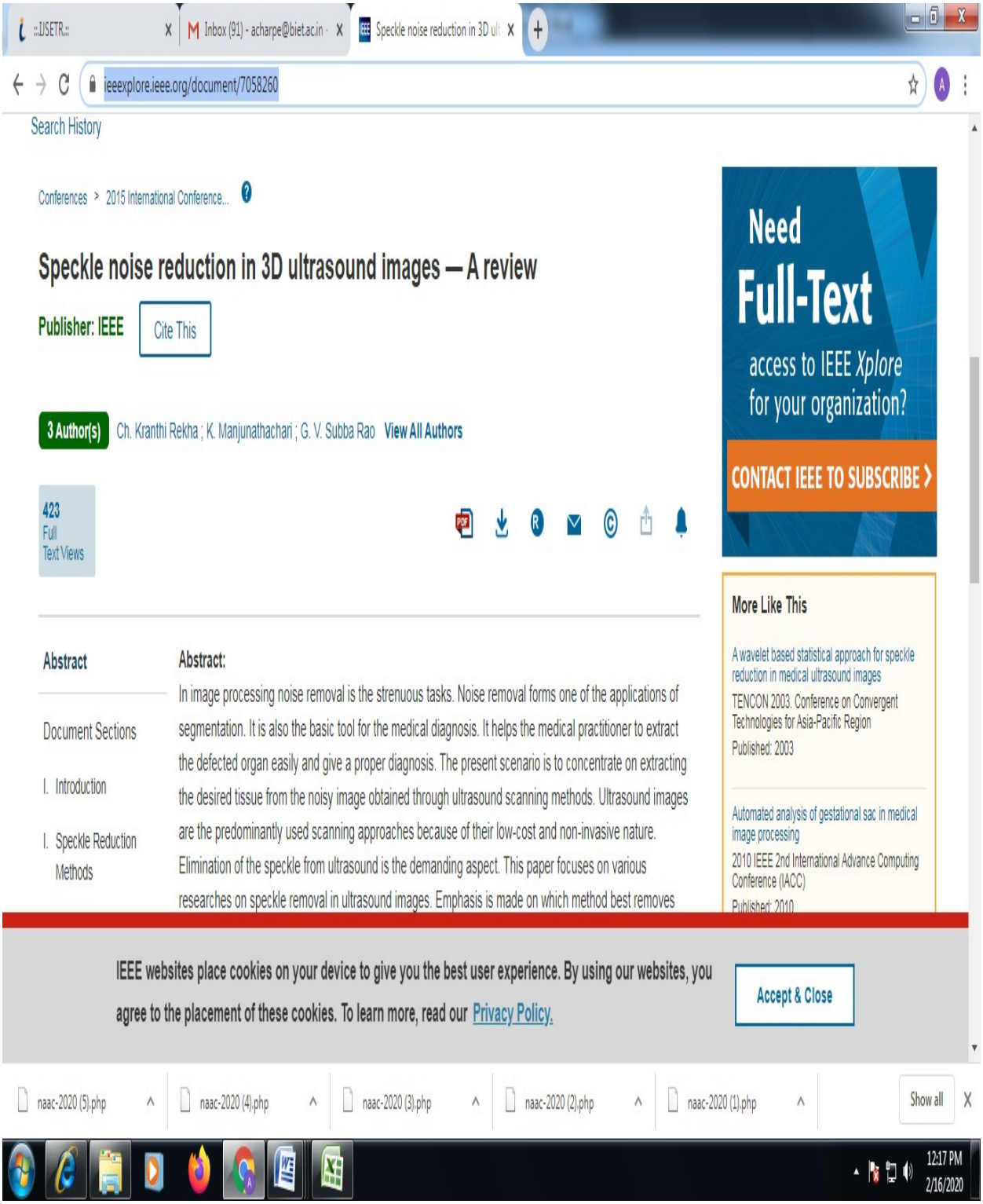

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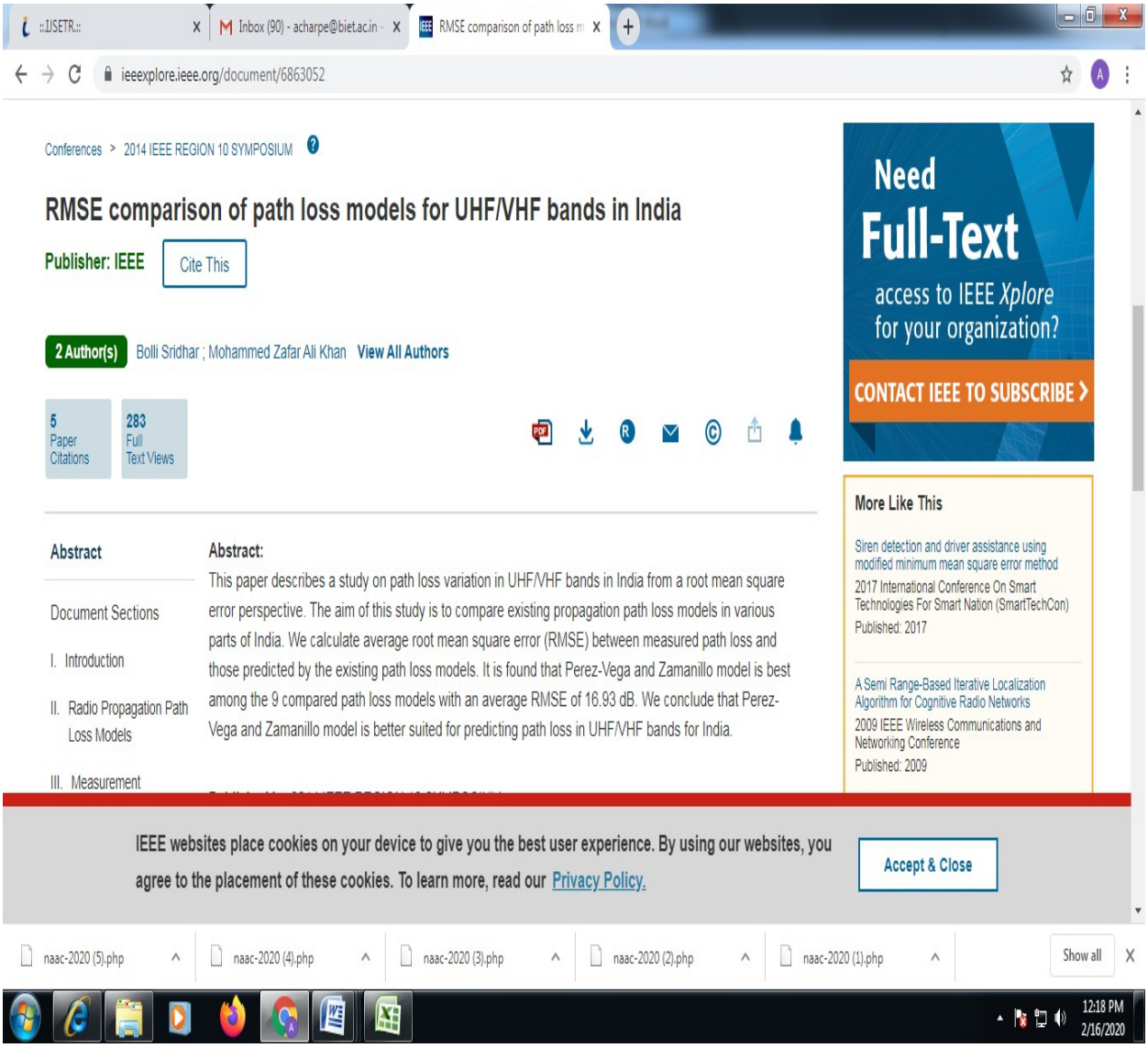

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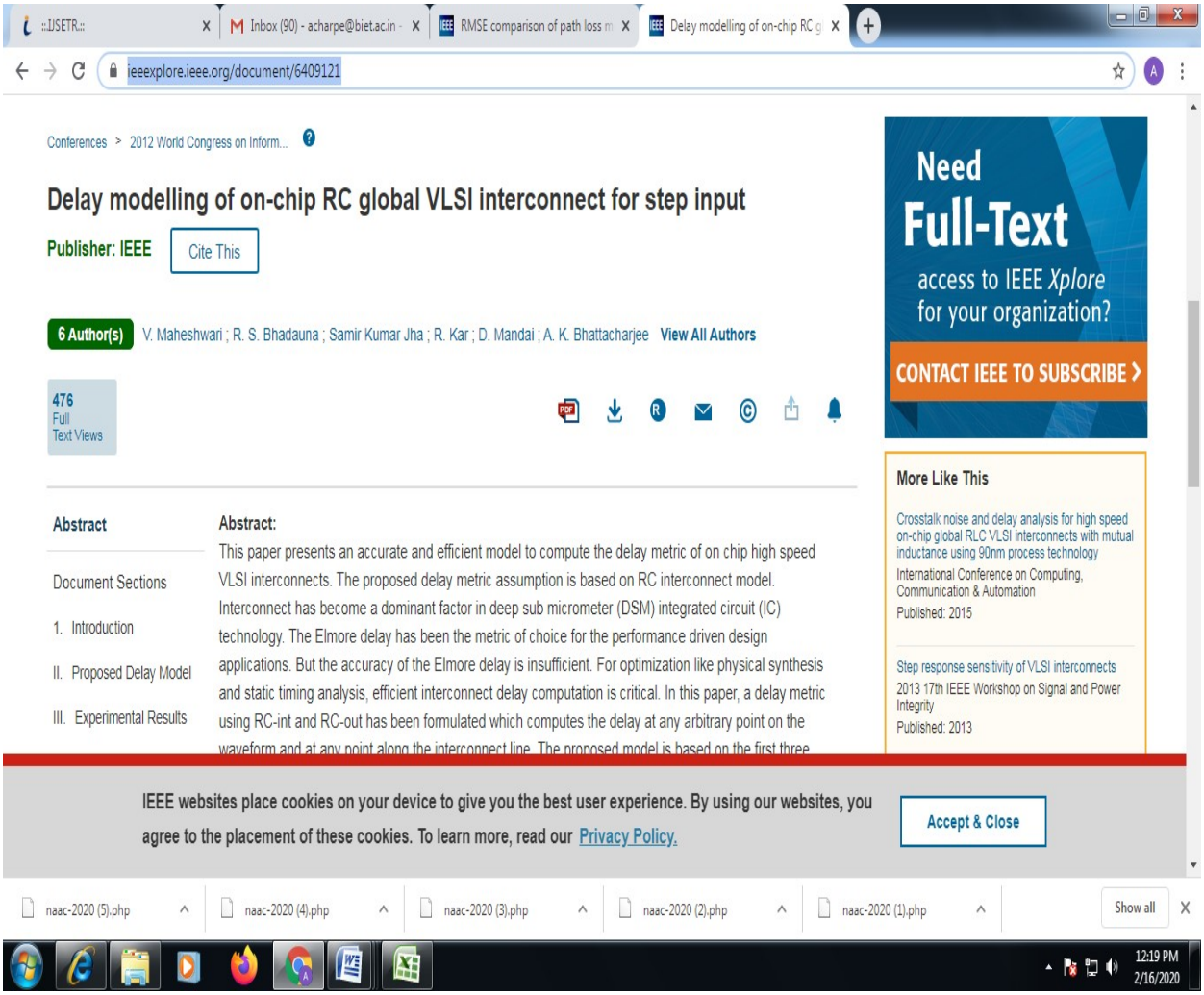

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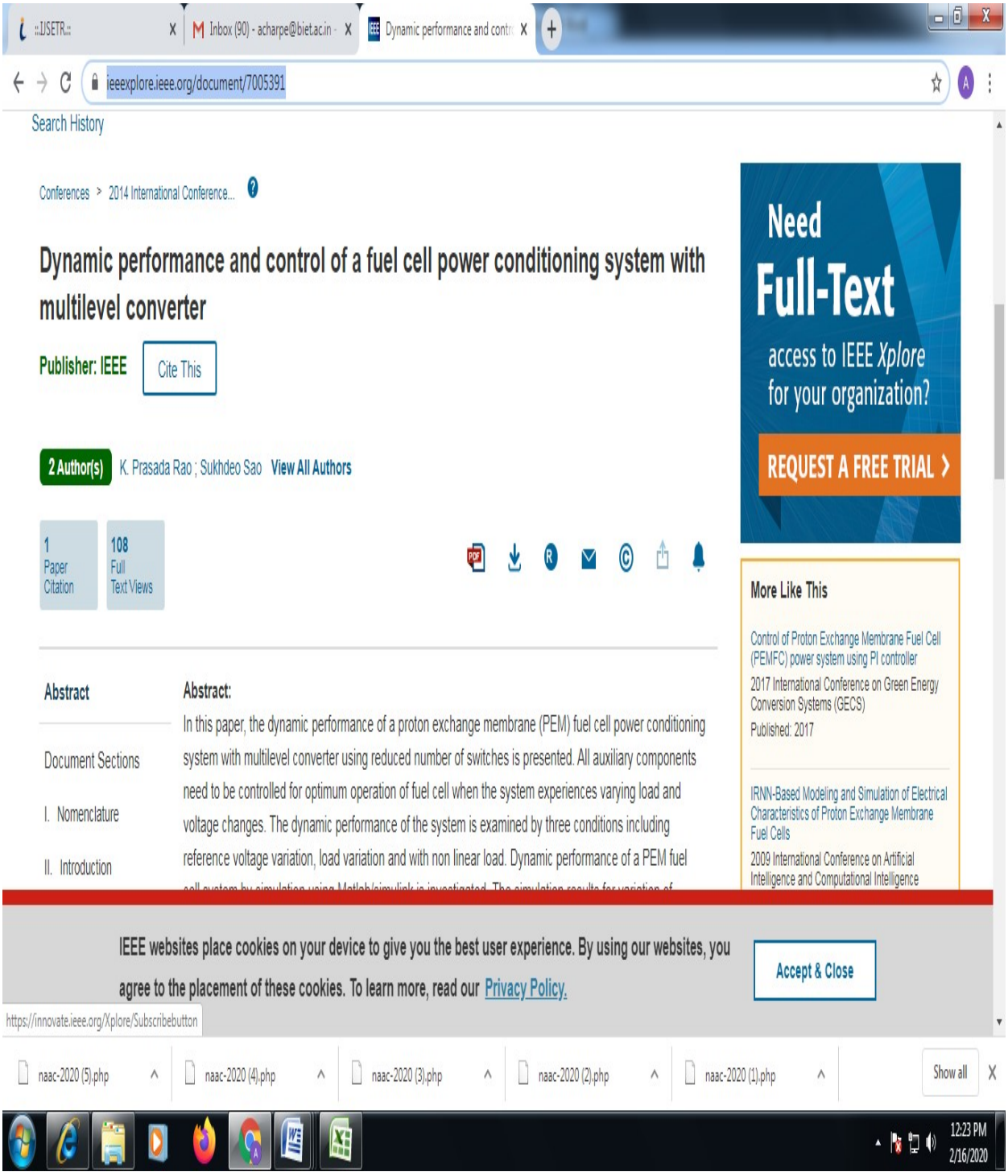

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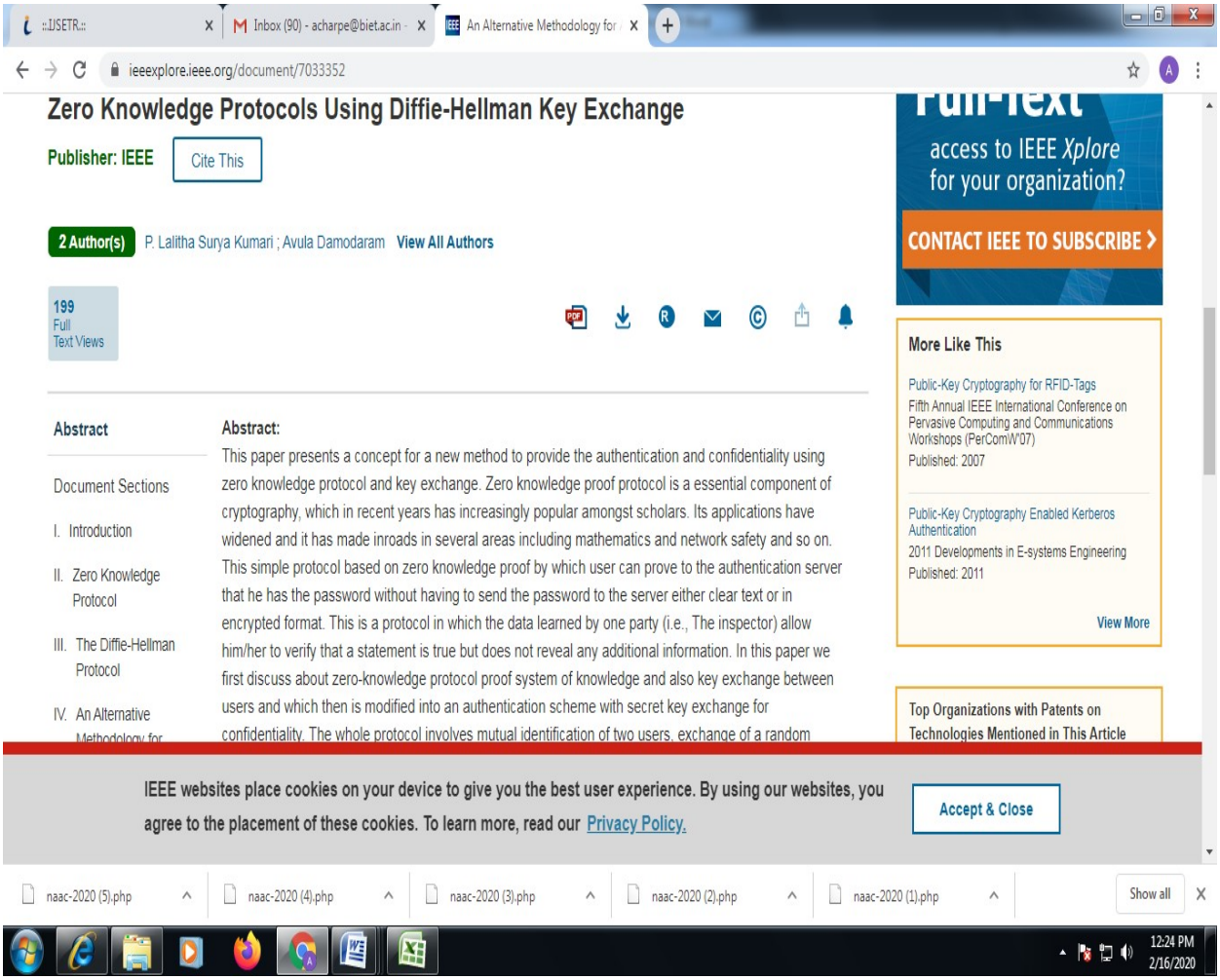

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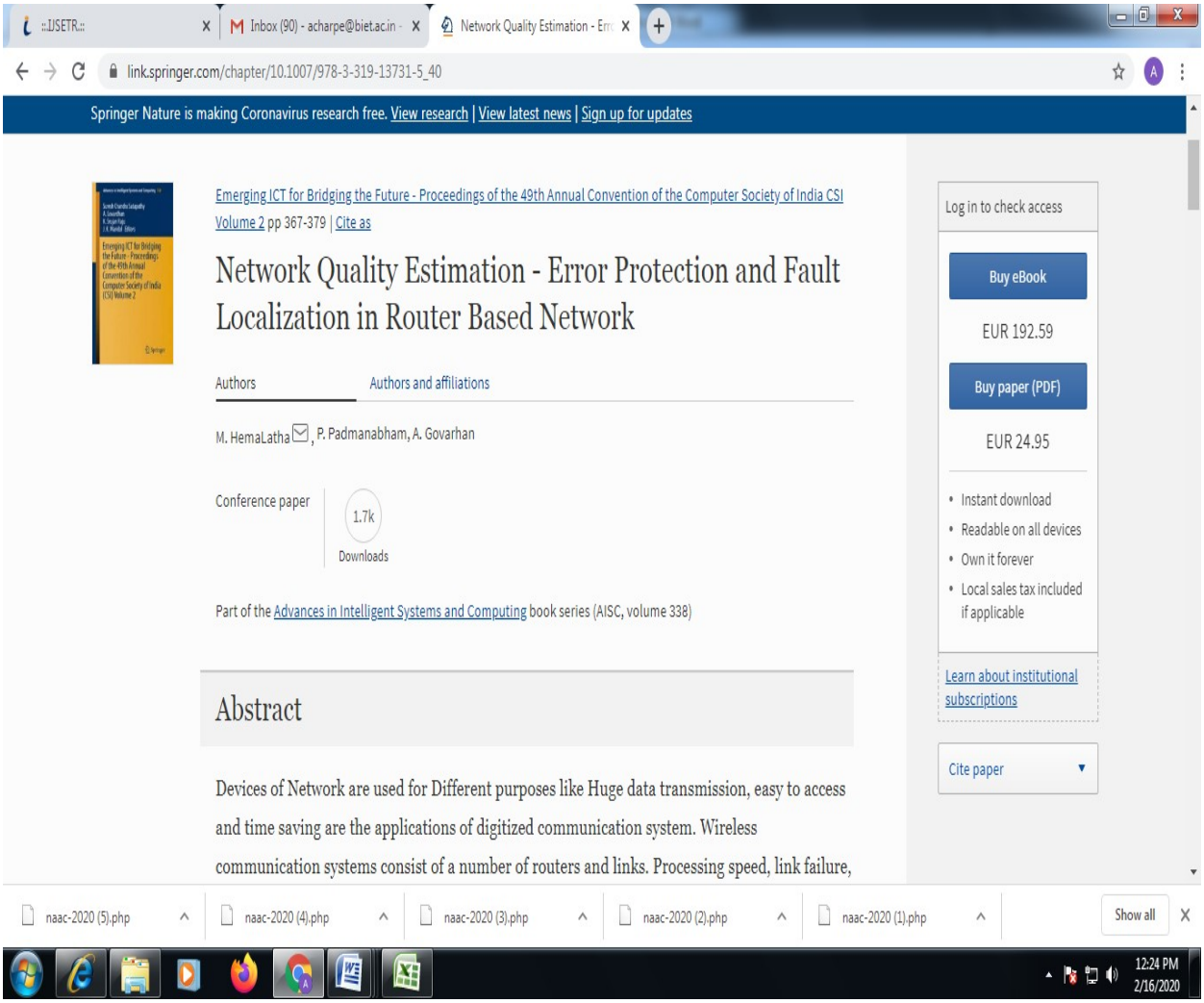

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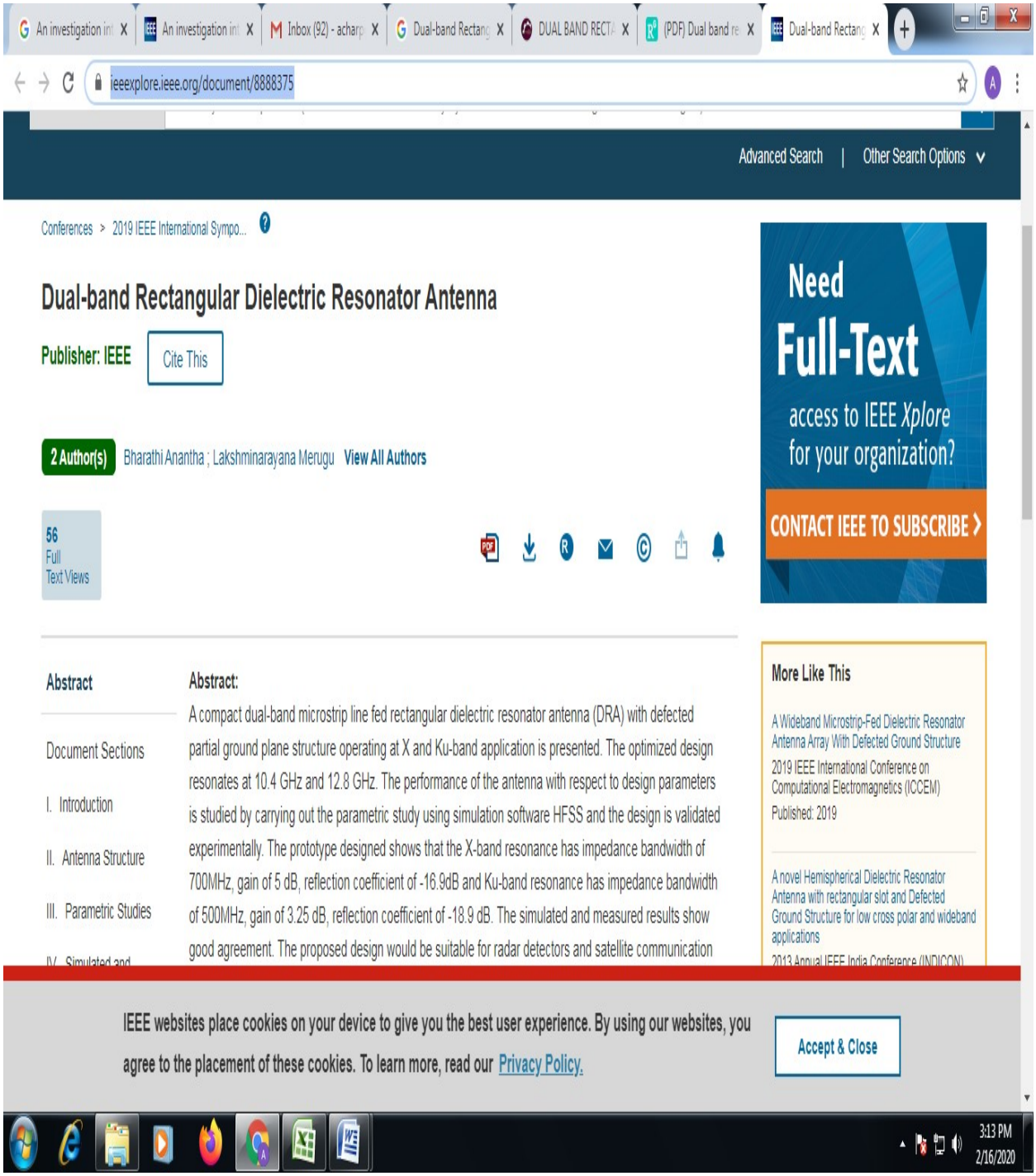

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PERCEPTIONS OF ACCOUNTING PROFESSIONALS TOWARDS LEASES (IND-AS -116) – EVIDENCE FROM HYDERABAD

Arshiya Sultana
Assistant Professor, School of Business Management, Bharat Institute of Engineering & Technology
Mangalpally, Hyderabad

ABSTRACT

The main purpose of this paper is to study the perceptions of auditors and accounting professionals on leases (IND AS -116). This study has applied objectives and methodology of this research is an investigative – survey research. While the Accounting Standard board (ASB) has retained AS 1's finance lease / Operating lease distinction for lessors, the distinction is no longer relevant for lessees. All lease contracts, together with renting contracts, will we recognised on the balance Sheet of the lessees, with some exceptions in limited circumstances. The standard will have broad implications for many stakeholders and metrics, including finance departments, property teams, banking covenants, remunerations schemes, and regulatory compliance.

IND AS 116 will replace AS 19 for reporting periods beginning on or after 1st January 2019 with a retrospective application by default. The present paper reports on an investigative research of professional of two different sub – groups of responds there are chartered accountants and professional accountants about issues relevant adopting IND AS 116 Leases. The primary data was collected from respondents of Hyderabad through the use of a structured questionnaire and analysed using means scores, standard deviation, and Pearson Chi- Square analysis by using SPSS (Statistical Package for Social Sciences). Finally, conclude that there is a significant impact of IND AS 116 on financial statements (Income statement & Balance sheet) of the Indian companies..

Keywords: IND AS-116, AS 19 Vs. INDA116, IND AS 116 Impact.

1. INTRODUCTION

Leasing is an imperative and broadly used financing solution. It allows companies to access and use property and equipment without incurring big cash outflows at the start. It also facilitates the flexibility and enables lessees to address the issue of obsolescence and residual value risk. In fact, sometimes, leasing is the only way to obtain the use of a physical asset that is not available for purchase. Lease: A lease is an agreement whereby the lessor conveys to the lessee in return for a payment or series of payments the right to use an asset for an agreed period. All leases result in a company (the lessee) obtaining the right to use an asset at the start of the lease and if lease payment is made over time also obtaining financing. The new standard on leases i.e. Indian Accounting Standard (Ind AS) 116, Leases is expected to be applicable from 1 April 2019. The new standard has major impact for lessees. It eliminates the classification of leases as either finance leases or operating leases as required by Ind AS 17, Leases. It introduces a single on-balance sheet accounting model that is similar to current finance lease accounting model. Therefore, majority of operating leases will be on-balance sheet of a lessee as if it has borrowed funds to purchase an interest in the leased asset. This accounting will make entities look asset-rich but at the same time heavily indebted too

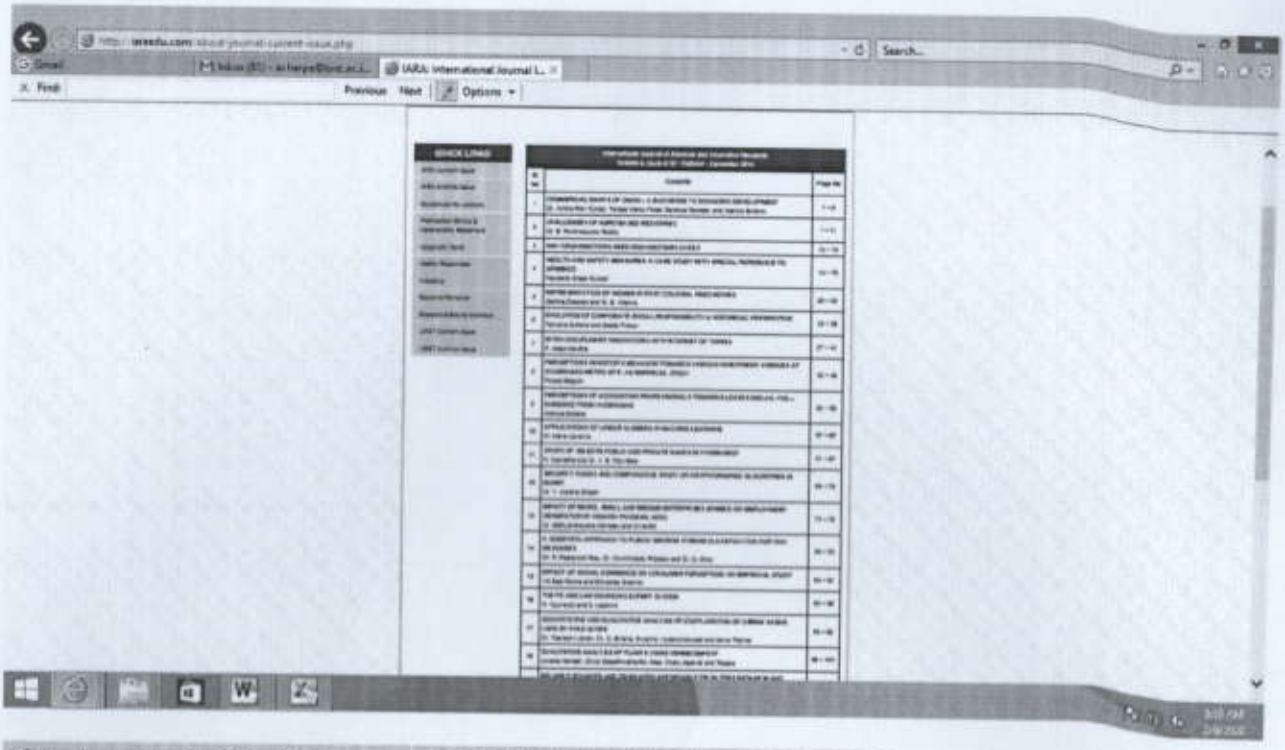
2. THE NEED FOR AND IMPORTANCE OF THE STUDY

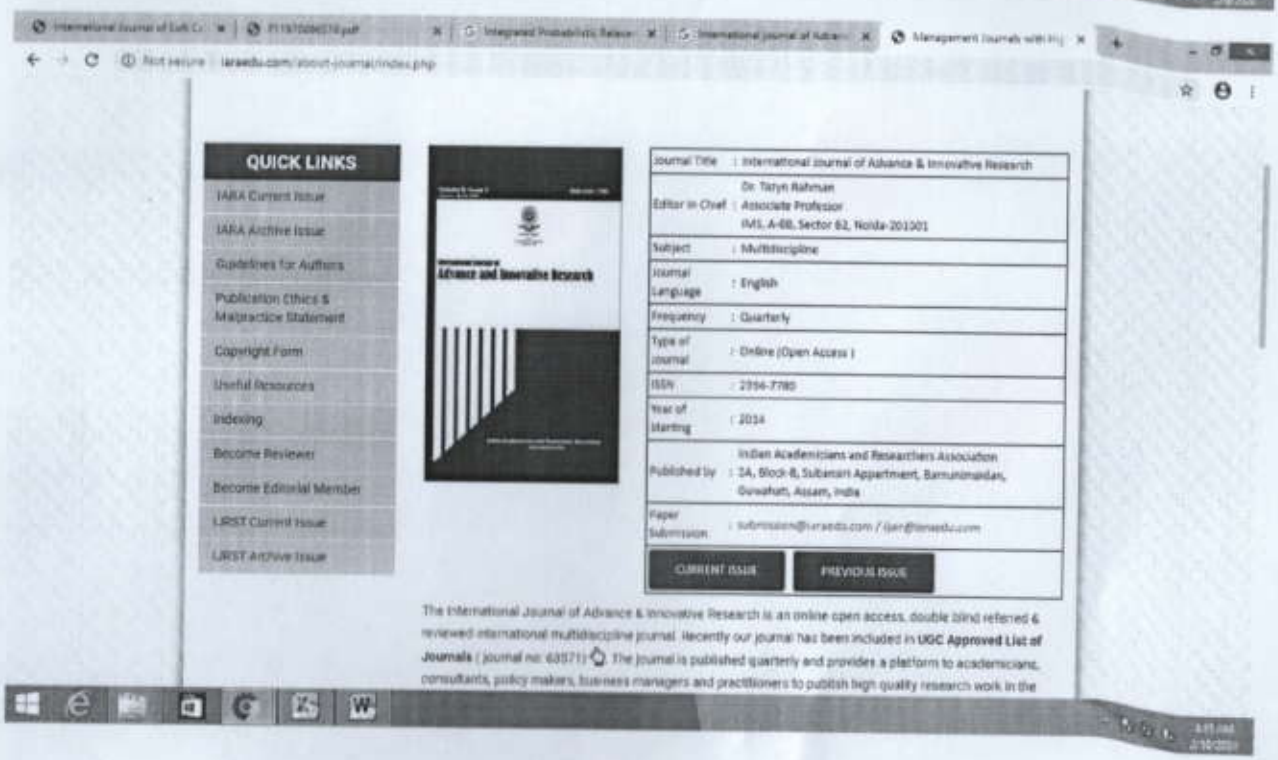
Leasing is an imperative and extensively used financing solution. It enables enterprises to right to use the property and equipment without improving big cash outflows at the start. It similarly offers elasticity and enables lessees to address the issue of undesirability and residual value peril. In fact, sometimes, leasing is the only way to obtain the use of a physical asset that is not available for purchase.

Under the previous standard rules i.e., AS 19, lessees account for lease transactions either as operating or as finance leases, depending on complex rules and tests which, in practice, use 'bright-lines' resulting in all or nothing being recognised on balance sheet for sometimes economically similar lease transactions. The impact on a lessee's financial reporting, asset financing, IT, systems, processes, and controls is expected to be substantial. Many companies lease a vast number of big-ticket items, including cars, offices, power plants, retail stores, cell towers, and aircraft.

RESEARCH GAP

Though there were no studies on impact of IND AS 116 implementation on forthcoming financial statements of the MNCs. There was no study which focused on airline, shipping companies because this IND AS 116 much more effect on the above companies' .Hence, this research topic has been taken up.

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PERCEPTIONS INVESTOR'S BEHAVIOR TOWARDS VARIOUS INVESTMENT AVENUES AT HYDERABAD METRO CITY- AN EMPIRICAL STUDY

Fouzia Begum
Assistant Professor, Department of Business Management, Bharat Institute of Engineering & Technology, Mangalpally, Hyderabad

ABSTRACT
This paper examines the perceptions of Investors Behavior towards Investment Avenues at Hyderabad Metro City. The prime objective of the study is to assess the different alternative investments and the factors while choosing the investment avenues and association amid the savings and investment patterns among select investor's behaviour towards investment Avenues of the individual/single investors of Hyderabad City by various age groups. This study has applied the objectives and methodology of this research is an exploratory – survey research. A sample size of the respondents was chosen using Yamane's technique from Hyderabad District of telangana. The total households (population) in Hyderabad District are 8, 49,051. Out of them, the researcher drew a sample size of 400 by using Yamane's formula (Yamane, 1967) with 5% precision value. A structured questionnaire was developed based on 5 points Likert scale. The primary data were collected from representative respondents of the above city householders through the use of a structured questionnaire and analysed using percentages, Descriptive statistic and Pearson Chi- Square analysis by using SPSS (Statistical Package for Social Sciences. Findings of the study is Calculated value of $\chi 2$ (48.266) is greater than the table value of $\chi 2$ (34.27). Hence, H_0 is rejected and concluded that there is a significant relationship between the savings and preference of Investments Avenues. Further, it is concluded that savings positively affected the investment avenues. Majority respondents (39%) are preferred to investment in Insurance / Pension Schemes, followed by 32% respondents are preferred to investment in banks.

Keywords: Annual Income, Savings, Demographic factors, Investment avenues, Investor's Behaviour, Dimensions of Investment Choices, Awareness of Investment Options.

1. INTRODUCTION

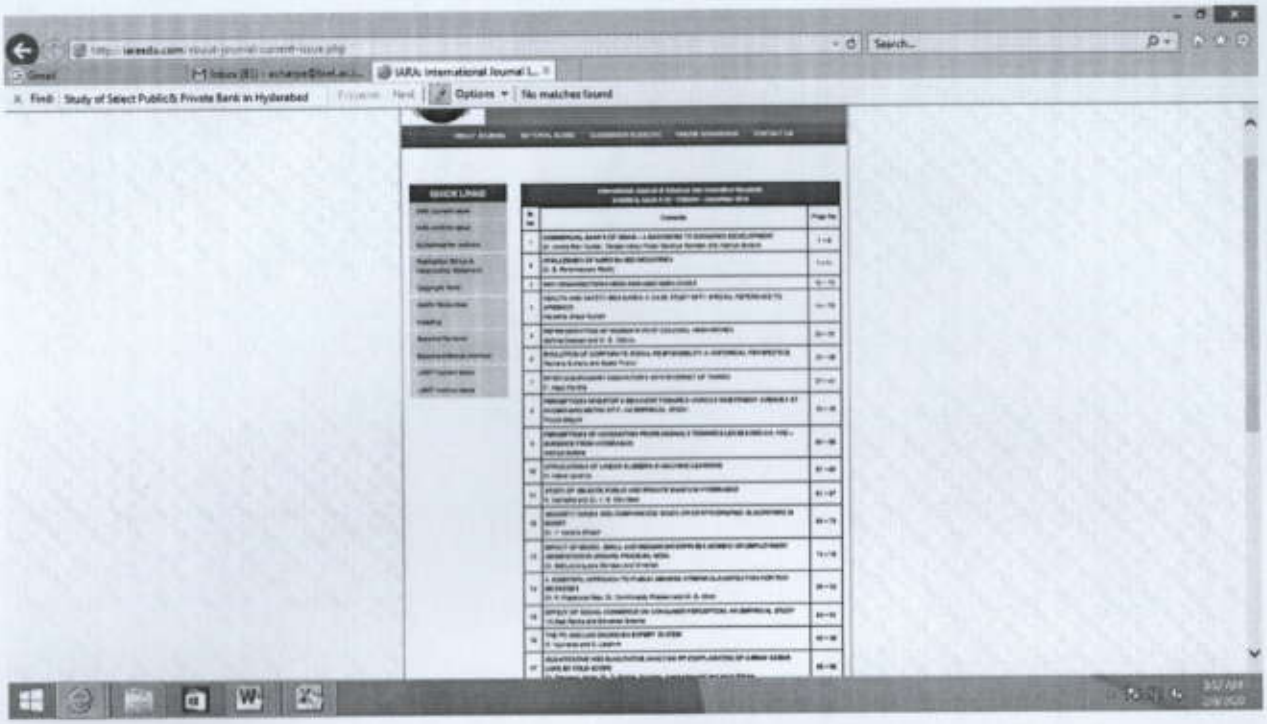
Investors are the backbone of the Indian capital market. **Investment** is putting money into something with the expectation of profit. Investment is the employment of funds on assets with the aim of earning income or capital appreciation. The word originates in the Latin "vestis", meaning garment, and refers to the act of putting things (money or other claims to resources) into others' pockets. Investment act as a key element in business because based on capital, inventor ascertains a specified quantity to produces output, purchase of land, tools. In its broadest sense, an ***investment is a sacrificing of current money or other resources for future benefits.*** Numerous avenues of investment are available today. Means we can either deposit money in a bank account or purchase a long term government bonds or invest in the equity shares of a company or acquire a plot of land or invest in some other form. Investments may be classified as financial and economic investment. ***Financial investments means*** money which is used for purchase of finical assets such as stock, bonds, real estate, post office certificates are all know as financial investments. ***Economic investment means*** the net additions to the capital stock of the society which consists of goods and services that are used in the production of other goods and services. Addition to the capital stock means an increase in building, plants, equipment and inventories over the amount of goods and services that existed. The two aspects of any investment are time and risk. People want regular income without risk they can invest in the government securities. *"Investment may be defined as an activity that commits funds in any financial/marketable or physical form in the present with an expectation of receiving additional return in the future."* For example, a Bank deposit is a financial asset, the purchase of gold is a physical asset and the purchase of bonds and shares is marketable asset.

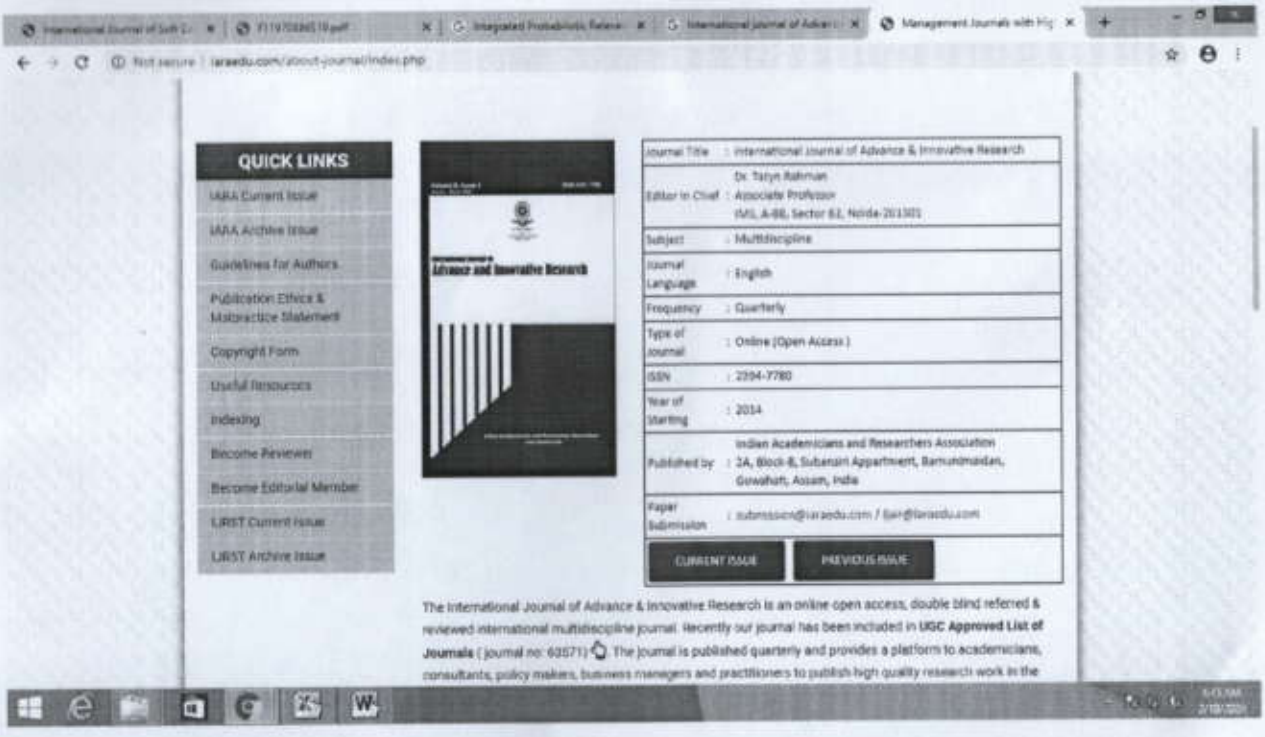
Elements of investment / nature

Investor have three main objectives while investing their money namely, (1) increasing rate of return (2) reducing the risk (3) safety. Other objectives like risk, safety, liquidity. etc,.

2. [illegible] FOR AND IMPORTANCE THE STUDY

This [illegible] very much useful to employees or business mans to select suitable requirement funds which yields them [illegible] am returns from their savings. Apart from understanding business, it has become a source of pro[illegible] becoming an investment bankers, or shareholders, or debenture holders who provide securities to sel[illegible]orting in the dealing of Mergers and Acquisitions (M & A). There is a common perception of in[illegible] purchase when the market supports in increased and not to invest in the falling period.





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STUDY OF SELECTE PUBLIC AND PRIVATE BANKS IN HYDERABAD

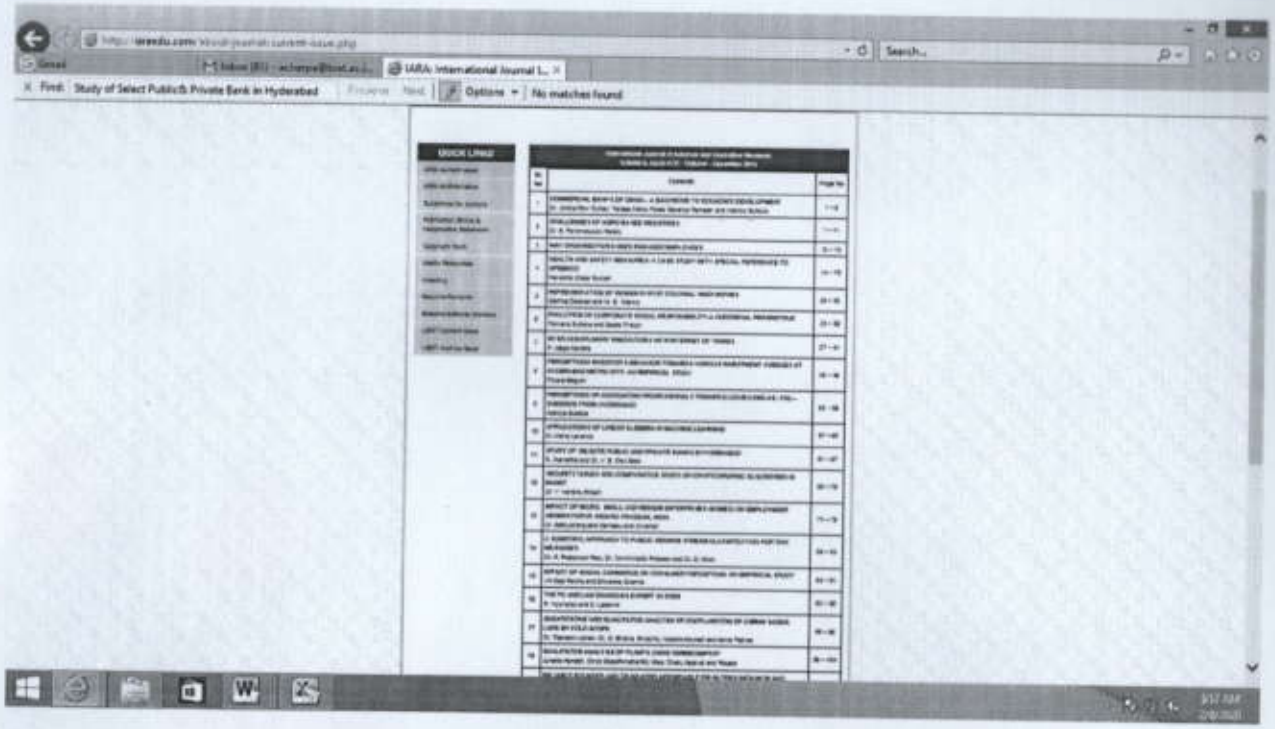
K. Mamatha[1] and Dr. V. B. Devi Bala[2]
Assistant Professor[1] and Associate Professor[2], Department of Business Management, Bharat Institute of Engineering &Technology, Hyderabad

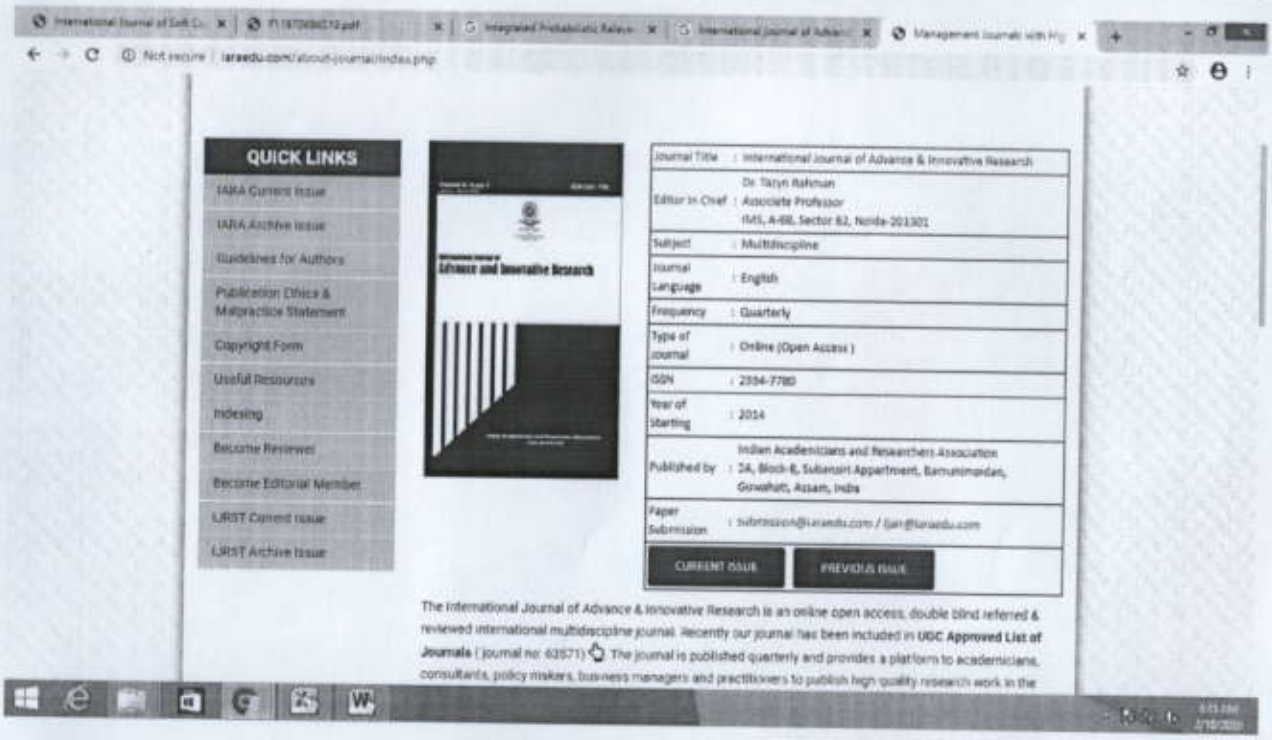
ABSTRACT
The reported study focuses on the wide spread silent issue the "Stress" and throws a light on a comparative analysis of causes of stress among the employees and its effect on the employee performance at the workplace in public and private banks in Hyderabad, and determine the level of differences if any, among both the areas employees. A survey of 210 employees divided into two equal parts of the public and private banks respectively carried out to assess the thirteen independent variables and its effect on employees' performance, the dependent variable. The descriptive analysis, factor analysis carried out to arrive at the conclusions. To measure the reliability of the likert scale used for this research, and internal consistencies of the survey questionnaire, the reliability static as said above. Stress means strain from the quarrel between our external environment and us, foremost to emotional and physical stress. In our speedy competition paced world, it is unsustainable to live without stress, whether you are a working adult or a student. Job stress level of permanent employees in private and public sector banks, results founded the private sector banks' employees significantly affected more by stress due to no control on their jobs, social unsupported by the managers, and mechanistic and strict organizational structure than the public sector bank's employees. This article highlights employees stress management in public and private sector banks in Hyderabad- an analysis. Finally concluded that private sector employees facing more stress than those in the public sector.

Keywords: Stress and Job stress, Emotional and Physical Pressure, Public And Private Banks, Management Factors, Importance Management Factors, Factor Analysis, Impact Factors.

INTRODUCTION
The origin of the concept of stress predates antiquity. The term derived from the Latin word "Stringere" to mean hardship, strain, adversity or affliction. The occupational stress has been of great concern to employees and other stakeholders of organizations. The researchers agree that occupational stress is a serious problem in many organizations. Stress is a worldwide phenomenon and now- a-days no organisation can claim to be stress free. Every job is challenging and more demanding. It requires high standard of performance, high quality in work and getting aspirations and expectation fulfilled. Every employee is forced to have a stressful and hectic lifestyle.Nowadays Stress Management is more important in the service, financial and banking sector. There is no such thing as stress less job. Every person in their work is revealed, to tension and worry as they get through the duties allocated to them. Banking industry plays a predominant role in the developing the Indian economy. The nature of banking employee's job is very vapid, as it includes the direct customer face to face interaction in all positions. This study reveals that a huge number of bankers are outside high level of stress by virtue of their job and the reasons behind this stress include heavy work load, long working hours, not proper reward system, lack of job autonomy, organizational culture, role conflict etc. and the major reason is lack of management support to employees in banking sector. The employees will indicate a number of symptoms indicating top-level stress among them (ArpitaBelapurkar, and Apeksha Jain (2011). However, if these indications are not perceived in prior Stage, they can reason critical health problems among employees such as depression, heart problems, diabetes etc. Not only health but personal life of bankers are also being affected because of high job stress, most employees are unable to expend time at the house or with members of the family. However, with the help of relevant management methods and techniques by management, the stress of banker's level to be decreased, to great extent. The type of research conducted is „Casual" as this research explores the effect of one variable over other.

NEED FOR AND THE STUDY
Stress is anamplefactor of the human survival, is said to have extensive influence more than the lives of the human being, and the organization. In the current era, the quality and zeal of stress are too vicious, that the present age has been Age of nerves, Stress, and Depression". As human beings spend most of their time at work, the work place has been imagining being a dynamic subscriber and of stress. At the place of work, different roles are executed which have to be in integration with the roles at home and other places. The stress inspires due to roles performed by an individual as employees at work place, has been one of the most persuasive firms stressors, the outcomes of which have been evaluated to be costly to the firm. The public and

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IMPACT OF MICRO, SMALL AND MEDIUM ENTERPRISES (MSMEs) ON EMPLOYMENT GENERATION IN ANDHRA PRADESH, INDIA

Dr. Sathyanarayana Gardasu[1] and G Harish[2]
Associate Professor[1] and Assistant Professor[2], Department of Business Management, Bharat Institute of Engineering &Technology, Hyderabad

ABSTRACT
Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector for the development of the Indian economy. MSMEs not only play a vital role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in the industrialization of rural & backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. MSMEs are complementary to large industries as ancillary units and this sector contributes enormously to the socio- economic development of the country. The main purpose of this research is to determine the impact of MSMEs on employment generation and also to identify the problems of Micro, small scale enterprises in A.P. The findings of the study are that MSMEs have a significant impact on employment generationand MSMEs have significant impact on job creation and by extension economic development in Andhra Pradesh by using Chi-Square Test. And also found that the biggest problems faced by the firms are Finance, Marketing and Lack of Skilled Labour. Infrastructure here comprises of factors like condition of the industrial areas, electricity or energy supply, transportation facilities etc.

Keywords: MSMEs, Employment Generation, Problems in MSMES.

I. INTRODUCTION

Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades. MSMEs not only play a crucial role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in the industrialization of rural & backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. MSMEs are complementary to large industries as ancillary units and this sector contributes enormously to the socio-economic development of the country. The Sector consisting of 36 million units, as of today, provides employment to over 80 million persons. The Sector through more than 6,000 products contributes about 8% to GDP besides 45% of the total manufacturing output and 40% of the exports from the country.

The MSME sector has the potential to spread industrial growth across the country and can be a major partner in the process of inclusive growth. Khadi is the proud legacy of our national freedom movement and the father of the nation. Khadi and Village Industries (KVI) are two national heritages of India. One of the most significant aspects of KVI in the Indian economy is that it creates employment at a very low per capita investment. The KVI Sector not only serves the basic needs of processed goods of the vast rural sector of the country but also provides sustainable employment to rural artisans. KVI today represent an exquisite, heritage product, which is 'ethnic' as well as 'ethical.

In India, the enterprises have been classified broadly into two categories: (i) Manufacturing; and (ii) Those engaged in providing/rendering of services. Both categories of enterprises have been further classified into micro, small and medium enterprises based on their investment in plant and machinery (for manufacturing enterprises) or on equipment's (in the case of enterprises providing or rendering services). The present ceiling on investment to be classified as micro, small or medium enterprises is as under:

Micro, small and medium enterprises as per MSMED Act, 2006 are defined based on their investment in plant and machinery (for manufacturing enterprise) and on equipment for enterprises providing or rendering services. The present ceilings on investment for enterprises to be classified as micro, small and medium enterprises are as follows:

Classification	Manufacturing Enterprises*. (Investment limit in Plant & Machinery)	Service Enterprises** (Investment limit in equipment)
Micro	Rs. 2.5 million / Rs. 25 lakh	Rs. 1 million / Rs. 10 lakh
Small	Rs.50 million / Rs. 5 crore	Rs. 20 million / Rs 2 crore
Medium	Rs 100 million / Rs 10 crore	Rs. 50 million / Rs 5 crore

Source: (MSME)1

Why we Hate to Love Concrete?

Nishant Yadav[1]

Department of Civil Engineering, BIET, Jhalmpatnam

email: nishantyadav@biet.edu.in

Abstract-

The paper is an attempt to compile the issues associated with conventional concrete. Last 20 years has seen the revolutionary growth in all engineering fields the way we communicate, the motors on road are far much advanced, comfortable, safe and economical. The speed of microprocessors improves probably every year now but, what about the concrete? Apart from sustainability and carbon foot print issues associated with the largest used construction material in the world the material still suffers with the age old issue of limited ductility and presence of cracks and flaws within the material even before any load is applied. Amidst of the aggressive research in the field concrete technology the question is unanswered, have we developed the concrete which is sustainable and acceptable to all stake holders of the industry. It is high time to think out of the box for applying sustainable innovation to overcome the limitations of concrete or else the industry will have to look for better alternatives.

Keywords *Interfacial Transition Zone, sustainability, workability, Strength and Durability.*

1. INTRODUCTION

Most definitions of concrete suggests that concrete is a composite material composed of coarse granular material (the aggregate or filler) embedded in a hard matrix of material (the cement or binder) that fills the space among the aggregate particles and glues them together. This is only a partial definition of concrete by simply mentioning the ingredients without any technical specification is like defining an engineering material without any engineering in it, concrete needs to be more precisely defined. The definition of concrete should include concrete production and construction practices like material selection, workmanship, mixing, placing, compacting and curing.

If we could properly define and prepare concrete in scientific way then probably the future concrete technologist will not have to read 475 pages of Concrete Technology. It will just be a book of 250 pages as there will be no durability related issue. Neville & Brooks text book quote 'laboratories produce concrete even with a small hand mixer is of higher quality than the concrete produced at big projects with sophisticated machineries' is the crux of the problem concrete is facing till today. The missing connection between the millions of available research papers on concrete and tons of concrete being produced daily is a major concern for industry. The construction industry especially in the developing countries like India is conservative in adopting the new research practices. In contrast to Indian construction industry which is growing at a fast rate and massive construction can be seen across the length and width of the country the matter should be taken more critically and the experts dealing with concrete must answer the following questions.

i. Is the concrete which is produced till date is optimized?

ii. Do we need a better concrete in terms of its strength/unit volume or strength/ unit weight?

iii. Is the concrete manufacturer is in position to predict the service life of the product?

iv. Considering the volume of the aggregates in concrete is it effectively utilized?

v. Workmanship is an important aspect of the performance of concrete but why the total concrete manufacturing process is still far from automation?

vi. In absence of automation only certified and trained person should be allowed to handle the manufacturing process of concrete which is having serious issues pertaining to carbon foot print.

vii. Curing is another important aspect of concrete manufacturing process, is it optimized?

viii. Proper curing in Indian construction industry is often neglected due to site constraints and lack of awareness there by hindering the hydration process and prevents concrete to develop desired strength and durability attributes.

Qualitative Analysis of Water Samples Using Water Quality Indicators: A Case Study

G. Gayatri

Department of Chemistry
Bharat Institute of
Engineering and
Technology
Hyderabad, India

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Abstract:

Physical and chemical analyses, of ground water and lake water, collected from various places in Hyderabad region, India, were performed to test the water quality as per Bureau of Indian Standard (BIS) and World Health Organization (WHO) standard. The parameters such as total hardness, pH, total dissolved solids, electrical conductivity, dissolved oxygen, alkalinity and presence of chlorides, using conventional equipment and standard laboratory procedures, were evaluated.The reasons for the observed numbers and the trends is examined.

Keywords *– Water quality indicators, Samples*

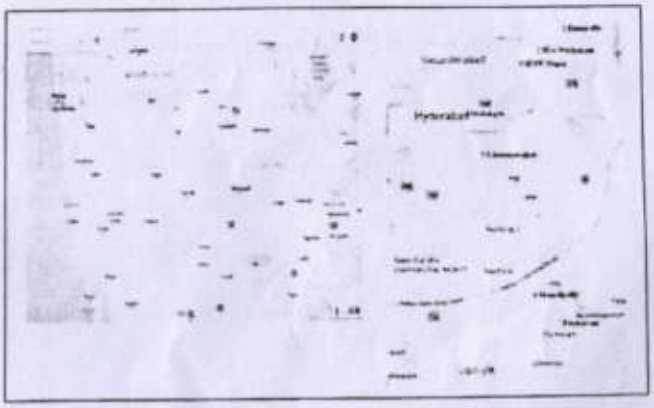
INTRODUCTION

The most vital source among the natural resources is water, and it plays a major role for the survival of the living organisms. Chemical composition of geologic formations affects the hydrochemical characteristics of groundwater during their circulation in the subsurface.[1] The underground passage of ground water through the pore spaces and weathered zones effects and changes its natural composition by the action of various chemical processes. Due to the unavoidable human activities such as industrial production, population growth, climate changes and other factors the quality of water is affected. This has resulted in water pollution and has been a major concern from many years. In India 70% of surface water resources and ground water reserves are contaminated by biological, organic and inorganic wastes, nutrition enrichment, acidification and domestic waste, agricultural waste, sewage and industrial effluents. The waste water effluents from industries and normal households, which are found in ground and surface waters, have been causing many health hazards.[2,3] The extent of pollution in rivers and canals from industrial wastewater dumped by factories, has increased drastically. These effluents have to be removed which help us to protect the water resources and in turn achieve quality drinking water. The water quality refers to the presence of the components of water in their optimum level such that it supports the growth of plants and animals. Temperature, turbidity, nutrients, hardness, alkalinity, dissolved oxygen, pH etc. play a key role in the growth of living organisms. A number of physico-chemical, biological and microbiological parameters, that reflects the biotic and abiotic status of ecosystem, are employed to assess the quality of water. These properties give insights into the chemical and physical nature of water which helps to understand whether a particular water sample is consumable or not.

Various studies have been carried to understand the issues related to pollution, methods involved to study the extent of pollution and the treatment of water to get quality water.[3-10] The WHO[11] and BIS[12] have set prescribed standards for the testing the water quality and the water samples are supposed to be in permissible limits as per these standards.

The present study is aimed to evaluate the chemical components of water samples collected from six different areas in Hyderabad region which include industrial and residential ground water, ponds and municipal water. The properties such as total, permanent and temporary hardness, total dissolved solids, conductivity, pH, dissolved oxygen, alkalinity and presence of chlorides are assessed. The reasons for the observed trends is evaluated.

Fig. 1. Regions of Hyderabad from where the samples were collected



I. WATER QUALITY PARAMETERS EMPLOYED

pH

The corrosive nature of water can be determined by evaluating the pH. The increase in pH values is due to the reduced rate of photosynthetic activity and the assimilation of carbon dioxide and bicarbonates. To determine the pH each water sample was taken in small beaker, the electrode of the pH meter was immersed and kept for some time till the value reaches stablility and the reading was noted.

Dissolved Oxygen:

The correlation of dissolved oxygen with water body gives information about the bacterial activity, photosynthesis, availability of nutrients, stratification etc. Dissolved oxygen in sample has been measured titrimetrically by Winkler's method. The difference in initial and final dissolved oxygen gives the amount of oxygen consumed by the bacteria during this period.

DESIGN AND ANALYSIS OF TITANIUM AIR BOTTLE

D.Srinivas[1] B.Thirupathi[2], J.S.Ssoni[3]

1.Asst.professor 2PG student
3.Professor,Mech.engg.dept.

Bharat institute of Engineering and Technology

Mangalpally(v), Ibrahimpatnam(m), Hyderabad.

Chennareddy.m94@gmail.com

Abstract: *-Pressure vessels are an enclosed container designed to hold or to store compressed air at a pressure substantially different from the ambient pressure. Different shapes of pressure vessels are exist but mostly cylindrical and spherical are used. In this, we designed a cylindrical thin walled pressure vessel made of titanium using design software SolidWorks and analysis is done using ANSYS. Structural analysis is done on cylindrical pressure vessel made of titanium alloy (Ti-6Al-4V) and the results are compared with the cylindrical pressure vessel made of Structural Steel at a pressure of 30 bar and 45 bar. The fluid analysis is also done on cylindrical pressure vessel and velocity streamline flows, pressure due to flow and inner wall temperatures are obtained.*

Key words: *velocity stream line flows, velocity contour, pressure contour, density contour, CFD.*

CHAPTER-1

1.INTRODUCTION

1.1 PRESSURE VESSELS

Pressure vessels have been in widely used for many years in chemical, petroleum, Military industries as well as in nuclear power plants. They are in generally subjected to temperatures and high pressures which may be constant or varying. Factors such as material, shape, chemical composition and physical substances used in it the atmospheric conditions of Pressure Vessels and etc are the factors which can have Different effects on performance of Pressure vessels. The fluid is being Undergo change of the state inside Pressure Vessels. The Pressure vessels are designed with the highly careful because of rupture of Pressure vessels can causes an explosion which may cause loss of property and life. The Pressure vessels materials may be brittle such as grey cast iron/ductile such as stainless steel/ mild steel. Cylindrical or spherical Pressure vessels (e.g. hydraulic cylinders, gun barrels, tanks, pipes and boilers) are generally used in the industry to carry air under high pressures.

The Pressure vessel is exposed to this pressure, the material comprising the Pressure vessels is subjected to pressure loading, and hence stresses will be formed from all the directions. The nominal stresses results from the pressure and functions of the element radius under consideration. The main basic requirements for designing of the Pressure vessels are safety, reliability, efficiency and economy. Two types of analysis are commonly applied for pressure vessels. The most commonly method is based on simple mechanics approach and dis applicable to thin walled pressure vessels by definition have a ratio of inner radius "r", to wall thickness "t", of r/t 10. The next method is based on the elasticity solution & is always applicable regardless of the ratio (r/t) and solution for thick walled pressure vessels. Finite Element Analysis (FEA) is a practical tool in the study of air bottles, especially in determining stresses in local areas such as cavities, 0-ring grooves and other areas, which are difficult to analyze manually.

1.2 APPLICATIONS

1. Cylindrical pressure vessels are used in **Domestic hot water storage tanks**.
2. **Mining operations-** Diving cylinders, recompression chambers, Distillation towers, pressure reactors etc.
3. **Marine applications-** used in submarines, space ship habitats.
4. **Reservoirs-** Pneumatic, hydraulic, rail vehicle air brake reservoirs etc.
5. Petroleum Liquefied gases storage like ammonia, Liquid Gases.
6. Major in oil Refineries, petrol chemical plants, and nuclear reactors.

1.3 INTRODUCTION TO TITANIUM CYLINDRICAL PRESSURE VESSELS

1.3.1 CYLINDRICAL PRESSURE VESSEL

Cylindrical pressure vessels are being used for storage of very high pressure gases for the industrial purpose and aerospace applications. In missiles, pressure vessel or air bottles are used as power source to actuate various mechanisms to control and stability of the vehicle. As weight is mainly concern in aerospace vehicles, weight is optimized at each and every step. The air bottles used in missiles are at high pressure which itself is a live bomb

DESIGN AND PART PROGRAMMING OF WORK HEAD SPINDLE BY CNC TURNING CENTRE

A.Narayanrao[1]

K.Venkatesh[2]

J.S.Soni[3]

1.Assis.Prof,2.Pg Scholar,3.Professor Mech .Engg. Dept

Bharat Institute Of Engineering And Technology

Mangalpally(V), Ibrahimpatnam(M), Hyderabad.

Abstract

In the present scenario, the facilities should be able to handle small batch production and also ensure high productivity and also ensure high productivity with good quality and reliability. The technology of CAD, CAM has evolved as the key element right from the production concept to analysis, design, and detailing, processing, manufacturing information automatically to reduce the lead time. The new methodologies and standards in reducing the lead time in the fabrication of a new product. The project deals with computer aided manufacture of work head spindle using computer numerical control. The component which has been manufactured on CNC LATHE. Is used for the automatic feed in surface grinding machine. In CNC complete machining of precision work piece is done by the capability of CNC LATHE. In this project the configuration and modes of operators of Computer Numerical control system have been studied. Thus in order to meet the increasing demand to manufacture the complicated components of high accuracy in large quantities and to reduce the production time, CNC and CIM plays a prominent role.

***key words**: Cad,Cam, Pro-E,CNC Programming*

CHAPTER-1

INTRODUCTION

1.1 CNC MACHINE

CNC stands for "computer numerical control ".

A CNC comprise of

1. Mechanical part of construction
2. Electronic system

The machining of various jobs can be carried out by these machines by preparing a NC code file (part program) as per the drawing specifications these NC program comprises of the movement of the X, Y, Z and B- axis moment of X and Z axis for CNC Lathe and so on. These part programs also incorporate the usage of different tools for various operations with an appropriate

A CNC system mainly three elements.

- Hardware
- Software
- Information

1.2 HARDWARE

CNC hardware includes the microprocessor that effect control system functions and status monitoring. In addition, certain elements of the machine tools like transducers, actuators can be considered part of the CNC system.

- **SOFTWARE**

CNC software includes program that are executed by the system microprocessor. These program process input and output instructions and control information, make all the necessary computations for machine function, coordinate the function of the machine and accessories and provide the communication link with other level of manufacturing automations.

The instruction that drives a CNC system are frequently generated using special programming language like FAPT, APT, or COMPACT or interactive CAD based CNC programming systems.

INFORMATION

CNC operation requires data such that cutter location data (Generated by the CNC system from the geometry of the part to be produced), machine data, and information regarding the dynamic

Finite Element Analysis of High Pressure Titanium Spherical Pressure Vessel

T.Dinesh Kumar[1], Dr.J.S.Soni[2], D.krishna Vamshi [3], D.Ajay Kumar[3], L.Lokesh[3]

1 Asst.Professor, 2 Professor, 3 Students, Department of Mechanical Engineering, Bharat Institute of Engineering and Technology, Mangalpally, Ranga Reddy, Telangana - 510501.

Abstract— *Pressure Vessel is a enclosed container designed to hold or to store compressed air at a pressure substantially different from the ambient pressure. Different shapes of pressure vessel exist but mostly cylindrical and spherical are used. Spherical pressure vessel are theoretically 2 times stronger than cylindrical ones. In this paper, we designed a spherical thin walled pressure vessel made of Titanium using design software CREO and analysis is done using ANSYS. Structural analysis is done on Spherical Pressure vessel made of Titanium and the results are compared with the pressure vessel made of Structural Steel at a pressure of 100 bar and 440 bar.*

The fluid analysis is also done on Spherical Pressure Vessel and Velocity streamline flows, Pressure due to flow and Inner wall temperatures are obtained.

Key Words: *Pressure Vessel, FEA, ANSYS, Structural analysis.*

I. INTRODUCTION

Pressure Vessels have been in wide use for many years in chemical, petroleum, military industries as well as in nuclear power plants. They are generally subjected to high pressures and temperatures which may be constant or varying. Factors such as material, shape, chemical composition and physical substances used in it, the atmospheric conditions of Pressure Vessels and etc. are the factors which can have different effects on performance of Pressure Vessels. The fluid being stored may undergo a change of state inside the Pressure Vessels.

The Pressure Vessels are designed with great care because rupture of Pressure Vessels causes an explosion which may cause loss of life and property. The material of Pressure Vessels may be brittle such as cast iron or ductile such as mild steel. Cylindrical or spherical Pressure Vessels (e.g., hydraulic cylinders, gun barrels, pipes, boilers and tanks) are commonly used in industry to carry air under pressure. When the Pressure Vessel is exposed to this pressure, the material comprising the Pressure Vessels is subjected to pressure loading, and hence stresses will be formed from all directions. The normal stresses resulting from this pressure are functions of the radius of the element under consideration.

The basic requirements for design of Pressure Vessels are safety, reliability, efficiency and economy. Two types of analysis are commonly applied to Pressure Vessels. The most common method is based on a simple mechanics approach and is applicable to thin-walled Pressure Vessels by definition have a ratio of inner radius "r", to wall thickness "t", of r/t 10. The second method is based on elasticity solution and is always applicable regardless of the r/t ratio and can be referred to as the solution for thick walled Pressure Vessels. Finite Element Analysis (FEA) is a practical tool in the study of air bottles, especially in determining stresses in local areas such as cavities, O-ring grooves and other areas which are difficult to analyze manually.

1.2 APPLICATIONS:

1. Spherical Pressure Vessels are used in domestic hot water storage tanks.
2. Mining operations- Diving cylinders, recompression chambers, Distillation towers, pressure reactors etc.
3. Marine applications- used in submarines, space ship habitats.
4. Reservoirs- Pnuematic, hydraulic, rail vehicle airbrake reservoirs etc.
5. Liqufied gasses storage like ammonia, LPG.
6. Major in Oil refineries, petro chemical plants, nuclear reactors.

II.OVERVIEW

2.1 SPHERICAL PRESSURE VESSEL:

Depending on the ASME boiler and pressure vessel code (BPVC), Code Section VIII, pressure vessels are containers for containment of pressure, internal or external. This pressure can be obtained from an external source or by the application of heat from a source as a result, directly or indirectly from a process, or any combination.

DESIGN AND ANALYSIS OF MOULDING TOOL FOR THE PREPARATION OF FRP COMPONENTS

B.Suresh kumar[1], K.Santosh kumar[2], J.S.Soni[3]

Asst.professor[1], P.G student[2], professor[3] Mechanical engineering department

Bharath institute of engineering and technology

Mangalpally(v), Ibrahimpatnam(m), hyderabad

ABSTRACT

Fiber reinforced plastics (FRP) molding is a relatively new technology developed in recent years. Tooling for fabrication of FRP components calls for a critical examination of the process, design, and problems. The reliability of the process leads to the reliability of the product essential for vital aerospace applications. This project covers the ablative applications in airborne defense and space rocketry. This project presents the problems encountered and remedial measures suggested during the production of FRP components. The requirement of high surface finish homogeneous structure, high strength and closed dimensional control was tooling for any other material. The designer gets from tools precisely what he put in them. The other design aspects like material, accuracy, and ejection system have also been discussed incidentally; the use of solid works is a recent addition to this field.

In a sense, the tooling for reinforced plastics is no different from article highlights the simplification made in order to get a cost effective tooling fabricated in a short lead time, although it may not be really suitable for mass production. Besides, it presents in detail the various design factors such as the method of mould heating, mould size, material, pressure applied to the mould, accuracy and surface finish of the mould, type of pinch off edges, die and punch clearance, type of guide pins, and method.

Key words: *SOLID WORKS & ANSYS.*

INTRODUCTION

Even though there are thousands of materials available in nature each material has its own advantages and disadvantages in terms of mechanical , thermal , electrical and optical properties. Especially in engineering applications based on nature of bonding among the atoms they have been classified in to different categories like metals, polymers, ceramics and composites Due to anti corrosive, light weight and high strength properties, composite gain more attention if fabrication of aerospace structures like aircraft structure and missile.

1.1 ABOUT FIBRE REINFORCED PLASTICS

fibre-rein forced polymer(FRP), also fibre reinforced, is a composite material made of polymer matrix reinforced with fibre. The fibre are usually glass, carbon, or amid, although other fibre such as paper or wood or asbestos have been sometimes used. The polymer is usually an epoxy, vinyl ester or polyester Thermos setting plastic, phenol formaldehyde resins are still in use. FRP commonly used in the aerospace, auto motives, marine, and construction industries.

Fibre reinforced polymer(FRP) or composites used in almost every type of advanced engineering structure, with their usage ranging from air craft, helicopters and spacecrafts through to boats, ships and off shore platforms and no automobiles, sports goods chemical processing equipment and civil infrastructures such as bridges and buildings, the usage of FRP composites continues to grow at an impressive rate as this material are used more in their existing market and become established in relatively new markets such as bio-medical devices and civil structures. A key factor driving the increased applications of composites over the recent years is the development of new advanced forms of FRP materials this includes development in high performance resin systems and new styles of reinforced, such as carbon NANO tubes and NANO particles. The book provides an up to date account of the fabrication, mechanical properties, d-laminating resistance impact tolerance and application of 3D FRP composites. The fibre reinforced polymer composites(FRP) are increasingly being considered as an enhancement to and/or substitute for infrastructure components or systems that are constructed of traditional civil engineering materials, namely concrete and steel FRP composites are light weight, no corrosive, exhibit high specific strength and specific stiffness, are easily constructed and can be tailored to satisfy performance requirements. Due to these advantageous characteristic, FRP composites have been included in new construction and rehabilitation of structure though its use as reinforcement in concrete, bridge decks, modulus structures, farm work, and external reinforced for strengthening and seismic upgrades.

High Speed VLSI Global Interconnect Technology Trends

Yadraj Shinde, B.Ajay Kumar, Vikas Maheshwari

Department Of ECE,BIET. Hyderabad.

Abstract: *Interconnect has become a dominant factor in deep sub micrometer (DSM) integrated circuits (ICs). With increasing levels of on-chip integration more functional units are integrated onto single die, such as a multi-core microprocessor and a System-on-Chip. Global Interconnect, which acts as communication media among these functional units, plays an increasingly important role and can significantly limit the performance of advanced systems. In this work, we make an approach to study and analyze the parameters affecting IC interconnect delay and slew and we estimate these parameters. Moments are widely used for interconnect delay analysis, from the explicit Elmore delay (the first moment of the impulse response) expression, to moment matching methods which creates reduced order transfer function approximations. This talk is an introductory survey of on-chip interconnects scaling trends in VLSI systems. Fundamental concepts related to on-chip interconnection with an emphasis on circuit design impact and process architecture are discussed. An overview of the evolving trends as reflected in the International Semiconductor Technology Roadmap for interconnect is presented.*

Keywords: VLSI, Interconnect bottleneck, Crosstalk, Integrity,

INTRODUCTION

Due to advances in VLSI (very Large scale integration) fabrication technology, the operating frequency and the functionality of LSI chip increasing.A big challenge in this era is high speed and large capacity signal transmission and long-distance interconnects are considered to be the bottleneck of the whole system. The performance of whole chip strongly depends on the performance of transistors and that of interconnects as well. The performance of transistors continuously improves as the fabrication process scales. However the performance of metal interconnects does not improve drastically compared with that of transistors. Therefore the design of on-chip interconnects has becomea crucial problem in high-performance VLSI circuits.Due to the advances in VLSI fabrication process, chip performance is continuouslyimproving. As the performance of VLSI circuits improves, on-chip signaling has been becoming abottleneck of the whole chip performance. The performance of on-chip interconnects has been discussedbut the main focuses are the signal propagation delay and the power dissipation.

I. TECHNOLOGY TRENDS

Multi-core architecture is considered to be a mainstream of high-performance microprocessor design. Network on-Chip (NOC) is also discussed in [10-13]. NOC is an architecture integrating a network of processors into a single chip. According to these technology trends, the throughput of on-chip interconnection is becoming an important metrics in circuit design. Network-on- (NOC) has been proposed as a promising solution increasingly complicated on-chip communi challenges.The core components of on-chip signali a driver, a receiver and an interconnect.Therefo interconnect bottleneck is considered as a critical pr in future VLSI circuits.Therefore in the near futu performance of on-chip interconnects limits the chip performance. The design of efficient interco affected by many issues, as detailed in the fo subsections.

- Local wires and global wires
- Signal integrity.
- Coupling capacitive effects
- Inductance effects
- Crosstalk

Local wires and global wires

When technology trends are investigated, usua important distinction is made between three ty interconnection wires. Interconnects can be classifi local, semi-global (or intermediate), and gl interconnects. Local interconnects are for con intra-cell, while semi-global and global one a connecting inter-cell and inter-module, respectiv usually span a significant portion of chip. Global wires do not shrink when devices get s and even tend to increase with increasing chip Figure 2.1[3].

DESIGN AND ANALYSIS OF COMPOSITE RADOME

K.Mounika[1], J.Sravanthi[2], J.S.Soni[3]

1 Asst.professor, 2 PG Student, 3. Professor

Mechanical Engineering Department, Bharat Institute of Engineering And Technology

Mangalpally(v), Ibrahimpatnam(m), Hyderabad.

Abstract:- *Radomes (Radar Domes) are defined as electromagnetic windows, consisting of covers or housings that serve to protect electronic equipment from damage and environmental conditions. They are required to have necessary structural strength and are not to exceed specified maximum deterioration in electromagnetic performance.*

Radome design is a quantitative description of the radome configuration and composition. In a specific application, the radome shape and its materials are usually chosen to satisfy structural and environmental requirements. It is very difficult to make an exact analysis for the structural design of a radome because of its irregular shape, non-uniform distribution of pressure, non-isotropocity of radome material and factors, such as impact loads and thermal loads. The analysis of radome made on the basis of simplifying assumptions or by rigorous methods, can be achieved only by Finite Element Analysis. The results of any analysis should be verified by structural tests.

In present project, design and analysis of a C-Sandwiched Radome using ANSYS is carried out.

Key Words : *Radome, Composite,Fem,*

CHAPTER-1

INTRODUCTION

A Radome (the word is a contraction of radar and dome) is a structural, weatherproof enclosure that protects an antenna.The radome is constructed of material that minimally attenuates the electromagnetic signal transmitted or received by the antenna. In otherwords, the radome is transparent to radar or radio waves. Radomes protect antenna surfaces from weather or conceal antenna electronic equipment from public view. They also protect nearby personnel from being accidentally stuck by quickly rotating antenna.

1.1 Types of Radomes

A radome is an electronic antenna enclosure. These enclosures are made of either rigid self- supporting materials or air-inflated flexible fabrics. Radomes are classified based on application. They are as follows

Air borne Radomes
Ship borne Radomes

Ground based Radomes

1.2 C-Sandwiched radomes

A C-Sandwich construction consists of five layers i.e. three dense skins and two cores. This type of construction has the best strength to weight ratio and is ideally suited to very high frequency applications in which greater rigidity is required Its transmission efficiency and band width is somewhat greater than those of A-Sandwich.

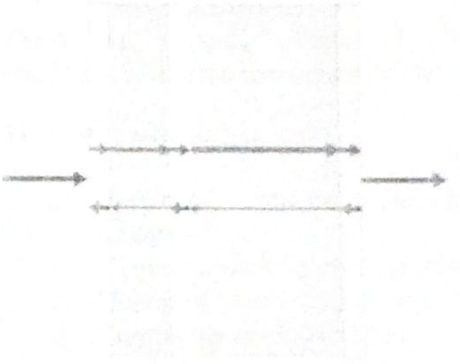


FIG.1.1: C-Sandwich radome

configuration

1.3 Analysis of radome

Based on the study of Mechanical and Electro-Magnetic properties of Composites materials, a suitable material is chosen for Analysis of the Radome Design. The analytical solution to the problem is complicated process because of the materials used, geometry and operating condition of the structure. Finite Element Analysis is used to analyze the radome for aerodynamic loads experienced by it during the flight. ANSYS is used to find the displacement and stress of the radome under aerodynamic conditions.

1.4 Major Applications

Some of the major applications of radome are as follows

DESIGN AND PART PROGRAMMING OF A MISSILE ROCKET MOTOR COMPONENT BY CNC TURN-MILL CENTRE

P.Lokesh[1], M.Shivashekar[2], J.S.S.soni[3]

1.Assistant Professor, 2.PG scholar, 3.Professor Mech.Engg.Dept,

Bharat Institute Of Engineering And Technology

Mangalpally,RR.Dist, Telangana,501510

ABSTRACT *The main objective of this project work is to design the critical component on CNC TURN MILL CENTRE. In this generation of part program and implementing the project consists of various operations that are to be performed to complete machining by maintaining the required dimensional accuracy of the component. It also includes holding devices like fixtures and jigs to carry out in the processing.*

The first step is process plan for identification of required operations and finalization of sequences to complete the required job as per drawing requirements.

The second step involves identification of machine tools and machining parameters, work holding devices, cutting tolls and other accessories.

The third step involves materials status at every stage from the initial product to final product and finding the optimal method.

The final stage involves inspection plan for the product with suitable inspection methods.

Keywords: *CAD/CAM, MISSILE, SHELL, CNC LATHE .*

1. INTRODUCTION

CNC stands for computer numerical control.

A CNC comprise of

1. Mechanical part of construction
2. Electronic system

The machining of various jobs can be carried out by these machines by preparing a NC code file (part program) as per the drawing specifications these NC program comprises of the movement of the X, Y, Z and B- axis moment of X and Z axis for CNC Lathe and so on. These part programs also incorporate the usage of different tools for various operation with an appropriate nomenclature for every tool.

These are a wide variety of CNC machines, which are mentioned below

1) CNC machining centre's

   a) Horizontal spindle machining centers
   b) Vertical spindle machining centers
   c) Universal machining centers
   d) Turning centre/CNC lathes
   e) CNC drilling and milling machines

A CNC system may be characterized in terms of three major elements.

- Hardware
- Software
- Information

Finite Element Analysis of Rocket Motor

Umesh Kishore Sharma[1], T. Arun, G. Jagadeesh Reddy[2], U. Madhava Krishna[2], J.S. Soni[3]

Assistant Professor[1], Students[2], Professor[3] Department of Mechanical Engineering

Bharat institute of Engineering and Technology, Ibrahimpatnam (Mangalpallyl), Ranga Reddy-501510

1.Abstract

Rocket motors are propulsion devices for both satellite launchers and missiles, which require guidance or steering to fly along a commanded trajectory and to compensate for flight disturbances. Structurally, a solid rocket motor consists of the solid propellant grain, the liner whose primary purpose is to provide an adhesive bond between the propellant grain and the insulation which provides thermal protection to the case from combustion products, the motor case which structurally supports the propellant grain, the igniter which ignites the grain, and the nozzle which helps in providing the desired thrust. Rocket motor followed by 3d finite element modeling and exeperimental validatin.To accomplish the above challenging task, the working principle of different thrust vector control mechanisms were reviewed and addressed the critical issues in the design and development of large rocket motors. The adequacy of the flex seal design is examined through finite element analysis (FEA) utilizing ANSYS software package. The FEA results show the predominant stresses that are developed in the inner diameter of rocket motor casing.

KEYWORDS USED : *Rocket motor, AutoCAD, FEA, ANSYS Software, Solid rocket motor; Stress, Strains, Structural and Thermal analysis.*

2. INTRODUCTION

Rocket motors are non-air breathing propulsion class i.e., won't require oxygen from the atmosphere for combustion of the fuel which is stored in the rocket motor. A rocket motor is a typical energy transfer system. The chemical energy inside the fuel is converted to the thermal energy by a combustion process. High pressure and high temperature combustion product gases are expanded through a converging-diverging nozzle. By this process "internal energy of the gas is converted into kinetic energy of the exhaust flow and the thrust is produced by the gas pressure on the surfaces exposed to the gas".

Solid propellant rocket motor is the most commonly used compared to other rocket motors due to its relatively simple design, high reliability, ease of manufacture and ready to use on demand etc. Since solid-fuel rockets can remain in storage for long periods, and then reliably launch on short notice, they have been frequently used in military applications such as missiles. Solids are, however, frequently used as strap-on boosters to increase payload capacity or as spin-stabilized add-on upper stages when higher-than-normal velocities are required. Solid Rocket Motor can be used for a wide variety of applications requiring wide range of magnitude of thrust.

The design and the construction of the solid rocket motor hardware involve consideration of various stresses acting on the motor hardware due to pressure and thermal loads. For this analysis to be done, selection of material and their properties, motor hardware performance and operating conditions, a few design considerations, etc.., are the parameters required to be studied to obtain the solution.

2.1 **Material selection criteria:**

Aluminum 7075 is a light metal, about the third of the density of steel, copper, and brass. Aluminum has good corrosion resistance to common atmospheric and marine atmospheres. Its corrosion resistance and scratch resistance can be enhanced by anodizing. Aluminum retains its toughness at very low temperatures, without becoming brittle like carbon steels. Aluminum is readily worked and formed using a wide variety of forming processes including deep- drawing and roll forming.

2.1.1chemical properties of Aluminum 7075:

- Silicon:-0.40,
- Ferrous:-0.50,
- Copper:-1.2-2.0,
- Manganese:-0.30,
- Magnesium:-2.1-1.9,
- Chromium:-0.18-0.28,
- Zinc:-5.1-6.1,
- Titanium:-0.20,
- Aluminum:-Remaining.

2.1.2. Typical mechanical properties:

- Tensile strength:-572.3MPa
- Yield strength:-503.3MPa
- Elongation(%) for the gauge range of 0.25-1.25mm:-11

Design Aspects Of Welding Fixture For Nozzle Casing Assembly By Tig Welding

K.Raju[1], Dr.J.S.Soni[2], N.Kamalakar Reddy[3], P.Mura Harish[4], V.Pavan Teja[5], C.Gnaneshwar[6]

1Assistant Professor, 2 Professor, 3 Students, Department of Mechanical Engineering,

Bharat Institute of Engineering and Technology, Mangalpally, Ranga Reddy, Telangana - 501510.

Abstract:-

In aerospace application, most of the structural components made of aluminum, magnesium, stainless steel alloys, because of their low weight to high strength ratio. The quality and reliability requirements are stringent. Welding of this stainless steels is a challenging task. This project deals with the design aspects of welding fixture for nozzle casing assembly which is used in rocket motor case. The welding fixture of nozzle casing assembly consists of fourteen parts which are to be assembled and nozzle casing is to be welded over it without ovality, distortions and other weld defects. And Material used is Stainless steel For TIG Welding . This report highlights the design aspects of welding fixtures considering the quality and reliability requirements it highlights various important features of the fixtures such as backup, purging arrangement, spider mechanism, heat sink, clamping arrangements and collapsible system for ovality correction and also highlights the typical characteristics of stainless steel alloys from which

nozzle casing assembly is made. This report also discusses the difficulties faced during design and welding of stainless steel components which are made up of thin rolled sheets.

Keywords: *TIG Welding, Nozzle Casing, Fixture, Solidworks Weld Defects.*

INTRODUCTION:

In aerospace application most of the structural sections are made of aluminum, magnesium and SS alloys because of low heat to high strength ratio. Nozzle casing assembly are made by welding of rolled SS sheets. The quality and reliable requirements are stringent. Hence weldments are subjected to 100% radiographic, dye penetrant, and ultrasonic inspection. Defects like ovality, distortion, porosity and cracks are not permitted These tanks have to go for hydraulic test or even burst test in addition to the dimensional checks. These stringent requirements are essential as these components have to withstand severe working conditions like vibration, high-G and high temperatures. The factor of safety is used in the design of nozzle casing assembly are of the order of 1.25 on proof strength and 1.5 ultimate strength as against the conventional factors of safety of 4-10 in pressure vessel designs. Any defect on such a critically designed hardware can be very detrimental to the performance. The weld efficiency of 80% has been taken in designing the nozzle casing assembly. The weld efficiency figure is achievable on aluminum alloy only by exercising very close control on welding parameters and use of the proper welding fixture having heat sink arrangements.

2. DESIGN AND MANUFACTURING OF WELDING FIXTURE FOR NOZZLE CASING ASSEMBLY

Nozzle casing assembly is a component used in rocket booster motor components in aerospace applications. The welding fixture of nozzle casing assembly consists of 14 parts where these all parts are to be welded each other. The assembled part of welding fixture is welded by nozzle casing over it by tig welding with accuracy, quality and reliability. Avoidance of ovality, distortion and other weld defects is essential requirements for achieving product performance of required level. The modelling of all the parts of nozzle casing assembly are carried out in solid works 2015 and material used for the manufacturing of nozzle casing assembly is stainless steel alloy. The welding of all the parts of nozzle casing assembly is done by tig welding

Finite Element Analysis of Pressure Vessel

Manish Sharma[1], K Ashok Kumar[2], B.Vinod Kumar[1], R. Lachunaik[3], P. Raghavendra Goud[3],
1 Assistant Professor, 2 Assistant Professor, 3 Students, Department Of Mechanical Engineering, Bharat Institute of Engineering And Technology, Mangalpally, Ranga Reddy, Telangana - 510501.

Abstract: *The aim of this study is to perform Finite Element Analysis which helps in weight reduction of the cylinder made of Fiber reinforced plastic composite. This cylinder is subjected to internal pressure for which finite element analysis is carried out to assess its capability of withstand the stresses developed in it.*

The Glass Fiber Reinforced Plastic (GFRP) composites and Carbon Fiber Reinforced Plastic (CFRP) composite cylinders. Variations of stresses and deformations throughout the cylinder made of steel, GFRP and CFRP are studied.

Keywords: Fiber Reinforced Plastic, ANSYS, Pressure vessel, Finite element analysis.

Introduction

Glass-Fiber-Reinforced Plastic (GRP) pressure vessels are widely used in industry particularly in the chemical and process industries. The main reasons for this are GRP material has good corrosion resistance, low weight but high strength and high stiffness. It is specially used in making chemical processing tanks and pressure vessels. These tanks and vessels are usually large in size. Pipe branch connections, manholes etc. in the vessels are very common and are potential weak points. Pressure vessels are important because many liquids and gases must be stored under high pressure.

Main emphasis is the consideration of the strength of the vessel to prevent explosions as a result of rupture. Codes for the safety of such vessels have been developed that specify the design of the container for specified conditions. Most pressure vessels are required to carry only low pressures and hence are constructed of tubes and sheets rolled to form cylinders. Some pressure vessels must carry high pressures, however, and the thickness of the vessel walls must increase in order to provide adequate strength. In today's aerospace and aircraft industries, structural efficiency is the main concern. Because to their high specific strength and light weight, fiber reinforced composites find a wide range of applications.

Literature Review

Composite Materials: The first glass fiber reinforced polymer was developed in 1940.The origin of distinct discipline of composite materials started in 1960"s.Extensive research has been done on composite material since 1965. One difference between laminated composites and traditional engineering materials is that a composites response to loads is direction dependent. Monolithic metals and their alloys can't always meet the demands of today's advanced technologies.The composite materials exhibit high specific strength and high specific modulus resulting in substantial reduction of weight of the components, thus improves efficiency, and results in energy savings.

One of the main advantages of composite materials is the flexibility involved in getting the desired strength and stiffness in the direction required. Carbon fibers are very common in high-modulus and high-strength applications.

Material Testing

As per the methodology of ASME, section X, to design FRP pressure vessel, mechanical properties of FRP material like Modulus of Elasticity, Flexural

Design And Realisation of Handling Beam For Rocket Motor

Dr.C.Jegadheesan[1], G.Krishnaveni[2] P.Mahesh[3], N.Karan[3]

1 Professor , 2 Asst. Professor, 3 Students, Department of Mechanical Engineering, Bharat Institute of Engineering and Technology, Mangalpally, Ranga Reddy, Telangana - 501510.

ABSTRACT:

This project is about designing a beam for handling a rocket motor. The capacity of the rocket motor is 10 ton which should ne handled. Primarily theoretical dimension values are obtained by considering the factors such as factor of safety, allowable stress etc. beam is designed in solid work based on the theoretical values obtained and analysis is done. Finally, theoretical values and analytical values are compared for authentication of the design.

***Key Words**: catia design, structural analysis, theoretical analysis.*

INTRODUCTION:

1.1 ROCKET MOTOR

Rocket motor is one which works on newton's third law, i.e., for every action there is equal and opposite reaction. A rocket in its simplest form is a chamber enclosing gas under pressure. A nozzle at rear end of chamber allows the gas to escape and in doing so provides thrust that propels in the opposite direction. So, a rocket engine uses stored rocket propellant mass for forming its high-speed propulsive jet. Rocket engines are reaction engines, obtaining thrust in accordance with Newton's third law. Since they need no external material to form their jet, rocket engines can perform in a vacuum and thus can be used to propel spacecraft and ballistic missiles

ASSEMBLY OF BEAM IN CATIA:

(COMPUTER AIDED THREE-DIMENSIONAL INTERACTIVE APPLICATION) is a multiple form CAD/CAM/CAE commercial software suite developed by French company **Dassault systems**. The software was created in late 1970s to develop Dassault's Mirage fighter jet, but was subsequently adapted in aerospace, automotive ship building, and other industries.

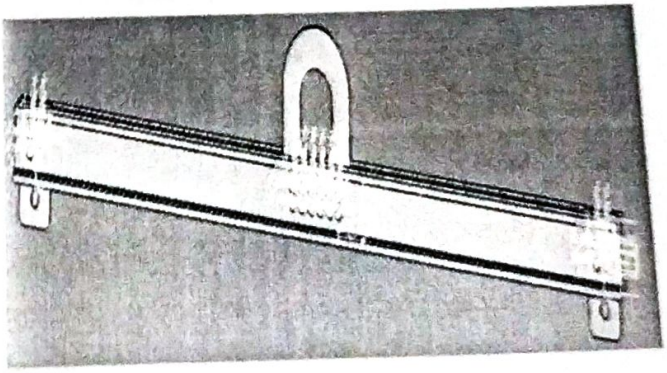


Fig1.*Handling Beam*

MATERIAL PROPERTIE OF IS 2062:

DESIGN AND DEVELOPMENT OF SOLAR CUM MANUAL PELLETIZATION PLANT FOR PRODUCTION OF PELLETS FROM FOREST WASTE

G.S.Krishna Prasad Rao[1],K.Mani kumar[2] M.Tharunkumar[2] reddy,M.Venkata sai ram[2] Dr. J.S.Soni[3] ,

1.Professor,2. Students,3.Professor.

Department of Mechanical Engineering.

Bharat Institute of Engineering and Technology Mangalpally (v), Ibrahimpatnam (m), Telangana.

Abstract:-*The waste leaves and grass are available in large volumes. They can be processed and produced in the shape of pellets which can be used as domestic fuel and domestic products. This will also help in conserving energy, saving forest trees from felling and keeping the environment clean. This project is about processing of raw material and production of pellets using Pellet machine. The dry leaves and dry grass is collected and grinded with the help of a grinder and is converted into a thick powder form. This powder is then mixed in a mixer with the bonding agents. These agents can be any liquid (starch) obtained during boiling of rice. After mixing the powder and bonding agent, the mixture is formed in the shape of pellets with the help of pellet machine. For experimental purpose a machine has been designed and used.*

Keywords : *Dry leaves, Pellets, Pellet machine, Grinder, , Starch, motor, battery, solar panel.*

1. Introduction

Biomass is yet another important source of energy with potential to generate power to the extent of more than 50% of the country's requirements. India is predominantly an agricultural economy, with huge quantity of biomass available in the form of husk, straw, shells of coconuts wild bushes etc. With an estimated production . of 350 million tons of agricultural waste every year, biomass is capable of supplementing coal to the tune of about 200 million tonnes producing 17,000 MW of power and resulting in a saving of about Rs.20, 000 crores every year. Biomass available in India comprises of rice husk, rice straw, bagasse, coconut shell, jute, cotton, husk etc.

Analysis of the Effect of Trailing Edge Shape on the Performance of a Straight-Blade Vertical Axis Wind Turbine

A.Navven krishna[1]
B.Thirupathi[2]
CH.Venkatesh[2]
P.Pavan Kumar[2]

1Assistant Professor
2Assistant Professor,
[2]Students,
Department of Mechanical Engineering,

Bharath Institute of Engineering and Technology,

Ibrahimpatnam-501510,Hyderabad, Telangana

Abstract— *The purpose of this paper is to numerically investigate the effect of the trailing edge profile of a 2-D cross-section model of the SB-VAWT on the performance of the straight-blade VAWT (SB-VAWT). Four trailing edge profiles are investigated, namely sharp, rounded, S-blunt and R-blunt. to study static and thermal behavior of straight VAWT blades with three different metals namely aluminium alloy, E-glass, Neat glass This numerical investigation is done using ansys software. work is to study static and thermal behavior of straight VAWT blade. , Von-Mises stress, and natural frequencies fatigue stresses, fatigue life for composite materials (1%carbon fiber, Neat matrix, E - Glass composite) to a straight symmetrical (VAWT) blade. The deformation and stresses are calculated by structural analysis. Natural frequency and vibration mode shapes are obtained by modal analysis. Fatigue stress and fatigue life are calculated by fatigue analysis. CATIA V5 R18 is used to model the turbine blade and ANSYS 14.5 to find the stresses, deformations, natural frequency and vibration mode shapes, fatigue stresses and fatigue life. The study is limited to single blade study without assembly. It is assumed that the behaviour of all the blade models will be identical under same loading conditions. A straight symmetrical blade for a small scale vertical axis wind turbine blade is considered for the study. The design features of straight VAWT blade model have been taken from the existing model .*

Keywords: *Work bech ansys , straightblade vertical axis wind turbine (SB-VAWT), trailing edge profile,transition, unsteady Reynolds averaged Navier-Stokes (URANS).*

1. INTRODUCTION

In The Last few years, harnessing wind energy using wind turbines has gained a remarkable consideration in the scientific community due to the rapid growth in the population and the depletion of fossil fuels. Two turbine designs, namely horizontal axis wind turbine (HAWT) and vertical axis wind turbine (VAWT), have been developed to efficiently convert the kinetic energy in the wind into mechanical energy which is used for electrical generation. However, the HAWTs are more efficient when the turbulence level is low and the wind flow is relatively uniform provided that the flow is aligned to the wind which is maintained using a yawing controlling mechanism.

In urban regions, the flow is complex due to the obstacles that disturb the wind flow and this results in a continuous change in the wind direction. The VAWTs operate independently of the wind direction and this makes it more efficient in urban regions compared to HAWTs [3]. Therefore, improving the efficiency of this kind of turbine is essential to maximize the harnessed power of the wind.

Wind energy was the fastest growing energy technology in the 1990s, in terms of percentage of yearly growth of installed capacity per technology source.. By the end of 1999, around 69% of the worldwide wind energy capacity was installed in Europe, a further 19% in North America and 10% in Asia and the pacific. Wind energy is expected to play an increasingly important role in the future national energy scene. Wind turbines convert the kinetic energy of the wind to electrical energy by rotating the blades. Greenpeace states that about 10% of electricity can be supplied by the wind by the year 2020.

The wind imposes two driving forces on the blades of a turbine; lift and drag. A force is produced when the wind on the leeward side of the airfoil must travel a greater distance than that on the windward side. The wind travelling on the windward side must travel at a greater speed than the wind travelling along the leeward side. This difference in velocity creates a pressure differential. On the leeward side, a low-pressure area is created, pulling the airfoil in that direction. This is known as the Bernoulli's principle. Lift and drag are the components of this force vector perpendicular to and parallel to the apparent or relative wind, respectively. By increasing the angle of attack the distance that the leeward air travels is increased. This increases the velocity of the leeward air and subsequently the lift.

The wind turbine first came into being as a

Design of Experiments Using Taguchi and Orthogonal Arrays For Structural Design

B.Mounika Naidu[1], Dipesh Popli[2], B.Anil[3],G.Naresh[3], A.Sharath Kumar Reddy[3], Ch.Ravi Kishore[4]

Assistant Professor[1], Assistant Professor[2], Students[3], Assistant Professor[4]

Department of Mechanical Engineering

Bharat institute of Engineering and Technology,

Ibrahimpatnam (Mangalpallyl), Ranga Reddy-501510

ABSTRACT

Universal Testing machine (UTM) is widely used testing technique in manufacturing industries today for finding the various mechanical properties. The major problem associated with UTM is improper selection of parameters that leads error in results and machine performance too. Improper selection of parameter may cause problems with respect to both work pieces and machine too. That sophisticated behavior of this process must be optimizing to get better result for optimum testing parameters. This project investigates about the optimum tensile strength by setting varying parameters like length, diameter, thickness and weight. With the rapidly used of dissimilar materials in mechanical assemblies it is necessary to improve higher product quality. This project basically focuses on application of Taguchi method to optimization of strength of stainless steel materials. Experimentation process uses L27 orthogonal arrays. For experiment process stainless steel AISI 304 of equal thickness are selected. There are three levels are selected for four parameters. Testing time has been made for controlling parameters such as vertical displacement, Normal stress, shear stress and strain too. Experimental numerical analysis has been done by analysis of variance (ANOVA) and signal-to-noise ratio (S/N) for determining optimum tensile shear strength and F test value confirms most significant parameter that affect tensile shear strength at optimum level parameters to improve strength of the element. Tensile shear strength shows relationship between different levels of parameter. Experimental and confirmation test validate Taguchi method for better quality performance and to optimization of best combination of parameters in universal testing machine.

1.INTRODUCTION

The mechanical testing is an important process to enhance the usability of various materials in the appropriate way.

1.1 TAGUCHI APPROACH FOR QUALITY CONSIDERATION

Dr. Taguchi introduced the concept of quality engineering & management. It is the most powerful approach to achieve high quality at reduced cost. It is the statistical analysis tool Dr. Taguchi introduced mainly three concepts to achieve desired quality of products; these are system design, parameter design & tolerance design. Taguchi method includes ANOVA and signal-to-noise ratio statistical tools for quality characteristics.

1.3 SELECTION OF MATERIALS & METHODS

The selection of material & methods for experimentation are given below as follow.

1.3.1 Materials

There are dissimilar material sheets of Stainless steel & mild steel were selected. A batch of work pieces of various dimensions used for process to determine their performance against the loading.

1.3.2 Methods

The input parameters are selected as weld time, hold time, weld current, & electrode force. Output parameter is tensile shear strength of weld joint. The input parameters are shown in "TABLE-1".

Design and Analysis of deep drawing tool for aluminum cup

Anoop Joshi[1]
N.Suresh[2] ,J.S.Soni[3]

1.Assist Professor2. PG Scholar
3.Professor

Mechanical Engg.Department. Bharat Institute Of Engeneering And Technology Mangalpally,Ibrahim patnam,Rr.Dist,Telan gana

***ABSTRACT**: press tools are used to produce a particular component in large quantity, out of sheet metals where particular components achieved depends upon press tool construction and its configuration. The different type of press tool construction leads to different operation namely blanking, bending, piercing, forming, drawing, cutting off, parting off, embossing, coining, notching, shaving, curling, etc. generally metals having thickness less than 6mm is considered as strip.*

Deep drawing is a sheet metal forming process in which a sheet metal blank is radially drawn into a forming die by the mechanical action of a punch. It is thus a shape transformation process with material retention. The process is considered "deep" drawing when the depth of the drawn part exceeds its diameter. This is achieved by redrawing the part through a series of dies. The flange region experiences a radial drawing stress and a tangential compressive stress due to the material retention property. If the deep drawing process cannot produce a cup sufficiently deep in one operation then it is possible to spilt the operation into a number of stages. Also a redrawing operation is used. we used aluminum 1mm thick sheet to punch gasket of 50mm inner dia and 70mm outer dia. The traditional techniques for design of dies for sheet metal operation used In industry are experimental and expensive methods. Using analytical methods we can calculate various design parameters and forces required or the sheet metal operation and can be verified using COMPUTER AIDED DESIGN such as PROE, CATIA , SOLID WORKS and FINET ELIMENT ANALYSY by using ANSYS which will reduces the time for development of die.

1. INTRODUCTION

Press tool is one of the important methods for producing tiny products like small components of automobile; hallow cups, different home appliances as well as big product like car bodies and doors, turbine blades etc. To convert raw material into finished product, the raw material undergoes different sheet metal operation like shearing, blanking piercing, bending, deep drawing etc. For every operation different dies and punches are required. Die designing is important activity in sheet metal industries. High degree of accuracy in die designing is directly effects on to finish out particular product the design may be simple die progressive die, or compound die .The factor must be considered in die designing like type of material, thickness of material, length of stroke, cutting area, clearance between die and punch. For designing of dies and punches special hard materials are used to enhance the life of tooling. The initial cost of tooling more while press manufacturing require very low running cost. If the bending operation involve in manufacturing than the spring back and spring go effect will be considered. The traditional techniques for design of dies for sheet metal

Modeling, analysis and manufacturing of disc brake rotor using CAD/CAM software and CNC vertical machining center

A. Harish Kumar[1], G.M.Chanaky[2], K.Mohan[3]
1 Professor, 2 Asst Professor, 3 Students, Department of Mechanical Engineering,

Bharat Institute of Engineering and Technology,

Mangalpally, Ranga Reddy, 510501.

Abstract— *The present work aims modeling, manufacturing and analysis of Disc brake rotor. The modeling of Disc brake rotor is , Used by cad/cam software (UniGraphics) . Manufacturing Of Model is on CNC vertical machining Centre, Analysis by Ansys software package. To model the Disc brake rotor we will Use the UniGraphics software. In this software the modules are part design, drafting, Wire frame, cam etc.We Also Performs Analysis Of A Disc Brake Rotor Which Is Used In Automobile . By inputting Various Parameters Of Material , Load, Boundary Conditions to variable thicknesses in preprocessor phase, To Find The solution and Results Of Deformation , Stresses ,Strains , Animation and graphs etc.*

The live model manufacturing is done by using the part program with G-Codes, M-Codes and generated by cad/cam software. The machining of model is carried out in CNC vertical machining Centre.The advantages of this project , found that, it is more flexible to design , and find the strength of disc break rotor and easy to manufacture with high accuracy .

keywords—*Disk Break, Analysis, Vertical CNC Machine.*

1.INTRODUCTION

A brake is a device by means of which artificial frictional resistance is applied to moving machine member, in order to stop the motion of a machine. In the process of performing this function, the brakes absorb either kinetic energy of the moving member or the potential energy given up by objects being lowered by hoists, elevators etc. The energy absorbed by brakes is dissipated in the form of heat. This heat is dissipated in the surrounding atmosphere to stop the vehicle, so the brake system should have following requirement·

- The brakes must be strong enough to stop the vehicle with in a minimum distance in an Emergency.
- The driver must have proper control over the vehicle during braking and vehicle must not skid.
- The brakes must have well anti fade characteristics i.e. their effectiveness should not decrease with constant prolonged application.

The brakes should have good anti wear properties.

1.1CLASSIFICATION OF BRAKES

The mechanical brakes according to the direction of acting force may be divided into the following two groups

- Radial Brake
- Axial Brake

1.1.1

1.1.2RADIAL BRAKES

In these brakes the force acting on the brakes drum is in radial direction. The radial brakes may be subdivided into external brakes and internal brakes.

1.1.2 AXIAL BRAKES

In these brakes the force acting on the brake drum is only in the axial direction. i.e. Disk brakes, Cone brakes.

DISK BRAKE

A disk brake consists of a cast iron disk bolted to the wheel hub and a stationary housing called caliper.

The caliper is connected to some stationary part of the vehicle like the axle casing or the stub axle as is cast in two parts each part containing a piston. In between each piston and the disk

EFFECT OF A PARTICLE SIZE ON TENSILE PROPERTIES OF POLYPROPYLENE/FLYASH COMPOSITES

M.Vidhya Sagar[1], D.Vivek Raj[1], L.Visweshwar Reddy[2], M.Achyuta Nanda Reddy[2]

1 Assistant Professor, 2 Students, Department of Mechanical Engineering, Bharat Institute of Engineering and Technology, Mangalpally, Ranga Reddy, 510501.

ABSTRACT: *Fillers are incorporated in engineering polymers to enhance the mechanical properties of polymers. The performance of filled polymers is generally determined on the basis of the interface attraction of filler and polymers. Fillers of widely varying particle size and surface characteristics are responsive to the interfacial interactions with polymers. The present study deals with the effect of particle size and its concentration on the properties of flyash filled Polypropylene composites. In this study the effects of flyash with five varying particle size and filler concentrations (viz. 10 and 15 weight %) on the mechanical properties of thermoplastic composites was investigated. Composites of polypropylene with varying concentrations of flyash were prepared by injection moulding as per ASTM Standards. The tensile strength is decreased with fly ash loading, where as tensile modulus is found to be increased with increase. Further, it was observed that the tensile properties of composites improved with decrease in particle size of filler.*

Keywords: *Polypropylene, Composite, Fly ash, Tensile properties, Injection moulding, Particle size.*

1.INTRODUCTION

Fillers are used along with various commodity as well as engineering polymers to improve the properties and reduce the cost. Incorporating inorganic mineral fillers into plastic resin improves various physical properties of the materials such as mechanical strength, modulus etc. The reinforcing effect of mineral filler for polymers has been recognized after 1930s. Since the last three decades, improving the mechanical, electrical, thermal, optical and processing properties of polymer with the addition of filler material has become a very popular research interest. Utilization of fly ash (FA) as an additive component in polymer composites has received increased attention recently, particularly for high volume applications for effective disposal of the material and reducing the overall cost of the composites.

Flyash is finely divided mineral residue resulting from combustion of coal in electric generating plants. They consist mostly of SiO2, Al_2O_3, and Fe_2O_3 and are present in inorganic incombustible matter present in coal that has been fused during combustion to glassy amorphous structure. Flyash mostly used in cement industry could be used as filler in plastic products. Flyash

depending upon the source of coal, contain elements like carbon, Ti, Mg, etc. So the flyash has properties combined of spherical particles and that of metals and metal oxides.

In general the mechanical properties of particulate filled polymer composites depend strongly on size, shape and distribution of filler particles in the polymer matrix and extend of interfacial adhesion between filler and matrix.

Polypropylene (PP), also known as polypropene, is a thermoplastic polymer used in a wide variety of applications including packaging, textiles (e.g., ropes, thermal underwear and carpets), stationery, plastic parts and reusable containers of various types, laboratory equipment, loudspeakers, automotive components, and polymer banknotes. Most commercial polypropylene is isotactic and has an intermediate level of crystallinity between that of low-density polyethylene (LDPE) and high-density polyethylene (HDPE). Polypropylene is normally

STUDY OF MANUFACURING FEASIBILITY OF WING PANEL

Pradeep M.Chavan[1], N.Nagarjan[2], N. Uday Kumar[3], K. Mahesh[3], G. Appanna[3], CH. Kiran[3]

[1]Professor, Assistant Professor[2], Students[3], Department of Mechanical Engineering, Bharath Institute of Engineering and Technology, Ibrahimpatnam-501510,Hyderabad,Telangana.

Abstract:- *Wing panel assembly is the critical component in missile system configuration. The assembly is made of two pacts wing panel, wing skin which are joined by riveting. Wing panel is complex component involving compound angle profile made of Aluminum Alloy AA2014.*

*The project involve to manufacturing feasible of wing panel made of rectangle plane 855L*330W*2T. The fabrication involves Abrasive Water Jet machining, Rough milling, CNC milling and drilling operations. Project report will target about the fabrication, Quality Inspection and assembly Process of wing Assembly for a missile.*

Keywords: *Wing panel, Aluminum Alloy AA2014.*

I. INTRODUCTION

This growth is only because of the great availability of technology to us. In the early days, manufacturing was an artisan – oriented trade known to a very few people who would pass it on to their successors and much growth or innovation for that matter was not seen. As the economy grew, the government started expanding the industry and brought out Public Sector Undertakings. These units revolutionized the concept of manufacturing by bringing in new models of scheduling and routing, thereby ushering in extra productivity.

Manufacturing technology in the industry, throughout the world in its early stages in the 20th century consisted of lathes, drilling and milling machines, specific to only one kind of operation. The latter half of the century saw the rise of universal drilling and milling machines, innovations in machine tool materials, cutting fluids and increasing the number of operations that can be performed on a particular machine. The last quarter saw the development of computers in the industry and thus came the newest kid on the block – Computer Aided Design and Manufacturing. Engineers combined the knowledge of numerical methods and design to formulate the Numerical Control (NC) Machines.

At first, NC machines were run by a tape that had 8 slots on which the code was typed and fed. This was the Direct Numerical Control (DNC) methodology. Later, the code was typed into a Computer and executed, and thus, the first Computer Numerical Control (CNC) machines came into existence.

A CNC machine has the following advantages over conventional manufacturing machines:
Reduces the number of set-ups, set-up times, tool changing and work handling time.

Parts can be produced more accurately even for smaller batches. Conventional manufacturing requires human skill. Because of automation and absence of human – related factors, NC machines eliminated the inconsistency and provided higher Precision and quality.

There is least requirement of operator skill and as a result, minimum errors. Operators require knowledge of tool set-ups and work set-ups only.

Having said, the CNC machines are a boon to the industry as the requirements of mass production and delivery are met within the specified time limits, with a guarantee of quality. CNC machines have decreased operator fatigue and have increased productivity. The industry increases its volumes tenfold due to the CNC machines and thus it has become a necessity to install and manufacture products on CNC machines. Aided with various modeling software's, dry runs over the 3D models can be done and thus the wastage of test components has also been reduced. Thus, CNC machines have become an inseparable part of the manufacturing industry. .

II CNC MILLING MACHINES

Modern CNC mills differ little in concept from the original model built at MIT in 1952. Mills typically consist of a table that moves in the X and Y axes, and a tool spindle that moves in The Z (depth). The position of the tool is driven by motors through a series of step-down gears in Order to provide highly accurate movements, or in modern designs,

To Study the Effect of Side Rake Angle On Surface Roughness, When Machined With and Without Application of Cutting Fluid

N.Rajashekar[1], B.Ashwanth[1], D.Praveen[1] Dr. Janki Sharan Soni[2] Pravin Kumar[3]

1. Assistant Professor,
2. Professor &
3. Assistant Professor
Bharat Institute Of Engineing And Technology
Ibrahimpatnam– 501510

Abstract:
The purpose of this project is to study the effect of varying side rake angle in surface roughness when machined on mild steel work piece with HSS tool on lathe machine with and without application of cutting fluid. Here in this project, we design the tool according to ASA standards but we change the side rake angle of tool from 10° to 18° and machining is done with and without application of cutting fluid on different work pieces. The aim of this project is to find the optimal value of side rake angle for machining the mild steel work piece which results in better surface finish and better surface properties.

Key Words: *HSS tool, Grinding machine, Centre lathe machine, Bevel Protractor , Mild steel work piece, Talysurf stylus equipment, Surface Roughness(Ra)*

1. INTRODUCTION

With the more precise demands of modern engineering products, the control of surface texture together with dimensional accuracy has become more important. It has been investigated that the surface texture greatly influences the functioning of the machined parts. The properties such as appearance, corrosion resistance, wear resistance, fatigue resistance, lubrication, initial tolerance, ability 'to hold pressure, load carrying capacity, noise reduction in case of gears are influenced by the surface texture.

times, and surface finish closer to grinding and ability to machine the complex parts. Various materials which can be machined turning process include high speed steels, die steels, alloy steels, bearing steels, alloy cast iron, Surface roughness plays important role as it influences the fatigue strength, wear rate, coefficient of friction, corrosion resistance of machined components and large number of parameters. So, it is necessary to study the effects of speed, feed, effective rake angle, nose radius on surface roughness so as to develop the models for

Study of Welding Characteristics of Stainless Steel Using Water Plasma Arc Welding

B.Hemasundar[1],B.Thirupathi[2] ,Ch.Ravi Kishore.

1,2 & 3Assistant Professor

Department of mechanical engineering

Bharat Institute of Engineering and Technology,Ranga Reddy,Telangana-501510

Abstract:-*This project is to make plasma arc welding of stainless steel plates of various thickness. For that the edge preparation of the plates is done by filing the edges of the pieces with 45 degrees inclination. Later the plasma arc machine is make ready by filling the torch with distilled water and acetone on 50:50 volume by volume basis. This is further continued during compete welding processes. While doing welding the voltage, current and resistance are generated were recorded and found. And in addition the time required to weld, against length of tool travel for weld recorded. All these are analyzed for finding the interrelationships among the parameters. Later the hardness, microstructure were derived. After that the testing is done for knowing the weld strength and defects present if any. The hardness is found using brinnel's hardness machine. And the testing is done in two ways. They are Non destructive testing and destructive testing. In the non destructive testing Radiographic testing and Die penetrate testing were used. And in destructive testing tensile test is used.*

1.INTRODUCTION

Plasma arc welding is used for high quality joints in the air -crafts, aero space, chemical and petroleum industries. The present work discusses about the weld quality characteristics of stainless steel which are commonly used in almost all non specialist steel products like car domestic goods, constructional steel, street furniture signs. In this research welding is carried out at variable values of input parameters (current, gas flow) and same thickness of 3 mm for all work pieces. Current, gas flow are considered as welding processes parameters of PAW process, where as microstructure, hardness and tensile properties are considered as weld quality characteristics.

The plasma welding process was introduced to the welding industry in 1964 as a method of bringing better control to the arc welding process in lower current ranges. Today, plasma retains the original advantages it brought to the industry by providing an advanced level of control and accuracy to produce high quality welds in both miniature and pre precision applications and to provide long electrode life for high production requirements at all levels of amperage.

Plasma welding is equally suited to levels of amperage. Plasma welding is equally suited to manual and automatic applications. It is used in a variety of joining operations ranging from welding of miniature components to seam welding to high volume production welding and many others during welding of thin sheets by conventional arc welding processes,which offer high heat input has various problems such as burn through or melt trough, distortion porosity as burn through or melt trough, distortion porosity, buckling warping and twisting of welded sheets, grain coarsening evaporation of useful elements present in coating of the sheets, joint gap variation during welding, fume generation form coated sheets, etc. Plasma Arc Welding (PAW) is a good process for joining thin sheet, but it suffers high equipment cost compared, to Gas Tungsten Arc Welding (GTAW). However it is more economical when compare with Laser Beam welding and Electron Beam Welding processes. The selection of welding processes parameters play a vital role in obtaining the desired weld quality hence an attempt to made to study the weld quality characteristics (Kondapalli Siva Prasad et al., 2012).

The present work focuses on studying the weld quality characteristics like hardness and ultimate tensile strength of and microstructure of plasma arc welded stainless steel plates.

Plasma arc welding is a non-conventional form of welding which can be applied to almost any existing metals. The various process parameters in plasma arc welding such as plasma gas flow rate, torch height, front weld width, back weld width etc. play an important role

Paper On A device to reduce pollutant particles (Emission Control)

Jasbir Singh[1], Dipesh popli[2], Harshit Nailwal[3], Himanshu[4]

[1,3,4] Department of Mechanical Engineering, Gurukula Kangri Vishwavidyalaya, Haridwar, Uttrakhand, [2]Bharat Institute of Engineering and Technology.

Abstract:

In present study, a low cost device has been developed to remove the pollutant from the exhaust gases coming out of petrol engine. The pollutant such as carbon dioxide, sulphur oxides and nitrogen oxide has been removed from the petrol engine. The pollutant gases coming out of petrol engine are allowed the pass through an absorbent material. The absorbent material absorbs some amount of exhaust gases. The remaining amount of gases reacts with the chemical sprayed on the absorbent material. The different kind of aqueous salts has been formed as the exhaust gases reacts with different kind of chemicals i.e. NaOH, $CaCO_3$ and $MgCO_3$. The semi-quantitative analysis of aqueous salts has been performed to determine the quantity of pollutant before and after using the device. The results shows that the amount of pollutants in exhaust gas has been reduced after attaching the device to the exhaust pipe.

Key words: *Sulphur oxide,Nitrogen Oxide,Aqueous salts.*

Introduction:

Pollution is one of the major crisis currently faced by the world. It is responsible for global warming, intoxication of natural resources, death and extinction of various flora and fauna etc. According to an estimate, in coming fifteen years, earth will face a major irreversible climate change. This is especially proved vividly by L. J. Mickley, D. J. Jacob, and B. D. Field (*Division of Engineering and Applied Science, Harvard University, Cambridge, Massachusetts, USA*).

Development is often done on the cost of environment. Pollution is often the by-product of industrialisation, construction and various other activities done for developing a city. As we can see from example of London and Beijing, the direct impact of uncontrolled development is often air pollution. Going by this pattern it is very imperative for a developing city to have pollution in check.

In this research paper, we are going to focus on one of the way to reduce air pollution by using a chemical scrubbing method. The main principle of our research is versatility of sodium hydroxide in reacting to various flue gases produced by industries and fuel engines. The device thus built will be able to treat exhaust gases of a petrol engine. The salt thus produced after the reaction will be in aqueous form and will be collected in a reservoir. We will then perform the qualitative analysis of the solution collected for the availability of inorganic salts in the collected solution.

This device can be used in cleaning exhaust gases of bulky generators and other machines running on petrol fuel. It can further help to clean gases emitted by various small and medium size industries and other combustion units such as bakeries and coal burning units. By changing the chemical used as scrubbing reagent this device can be used for cleaning different types of exhaust gases. The device is economical and hence can be used in these places for a very reasonable amount.

DESIGN AND FABRICATION OF SEED SOWING MACHINE

Mr. C.Anil Kumar Reddy [1] A.Shravan [2] CH.Naveen [2], S.Laxmareddy [2]
1.Assistant Professor, 2 Students, Department of Mechanical Engineering, Bharat Institute of Engineering and Technology, Mangalpally, Ranga Reddy, Telangana - 501510.

Abstract: *Sowing machine should be suitable to all farms, all types of corps, robust construction, also is should be reliable, this is basic requirement of sowing machine. Thus we made sowing machine which is operated manually but reduces the efforts of farmers thus increasing the efficiency of planting also reduces the problem encountered in manual planting. For this machine we can plant different types and different sizes of seeds also we can vary the space between two seeds while planting. This also increased the planting efficiency and accuracy. We made it from raw materials thus it was so cheap and very usable for small scale farmers. For effective handling of the machine by any farmer or by any untrained worker we simplified its design. Also its adjusting and maintenance method also simplified.*

Keywords: *Seed, Sowing, Planting, agriculture, efficiency*

1.INTRODUCTION

Cropping is important and tedious activity for any farmer, and for large scale this activity is so lengthy also it needs more workers. Thus agriculture machines were developed to simplify the human efforts. In manual method of seed planting, we get results such as low seed placement, less spacing efficiencies and serious back ache for the farmer. This also limited the size of field that can be planted. Hence for achieving best performance from a seed planter, the above limits should be optimized. Thus we need to make proper design of the agriculture machine and also selection of the components is also required on the machine to suit the needs of crops.

The agriculture is the backbone of India. And for sustainable growth of India development of agriculture plays vital role. The India has huge population and day by day it is growing thus demand of food is also increasing. In agriculture we saw various machines. Also there traditional methods are there. Since long ago in India traditional method is used. Also India has huge man power. This manual planting is popular in villages of india. But for large scale this method is very troublesome. The farmer has to spend his more time in planting. But time available is less for him. Thus it requires more man power to complete the task within stipulated time which is costlier. Also more wastage happens during manual planting. Hence there is need of developing such a machine which will help the farmer to reduce his efforts while planting. This process of using machines is called as mechanization. Along with mechanization automation also helps to increase the efficacy of the process.

Here is the block diagram of the machine and working of it. It also tells the hardware implementation, selection of components and controllers. this system is nothing but 4wheel robot system on which seed tank, sowing mechanism and metering device is installed to turn it into automatic operated vehicle.

2. PROPOSED WORK

This machine has very less cost. This planter is very simple to use hence, unskilled farmer is also able to handle this machine. We simplified the design also made it cheaper and affordable to every rural farmer. We made various adjustments and simplified it from controlling and maintaining point of view. In this design we connected drive shaft to metering mechanism which eliminates the attachments such as pulleys and belts system. DC motor drives the shaft of motor which is coupled with battery bank. As motor starts it moves this robot as well as operates the metering mechanism. Seed storage tank is connected at the top of the robot near rear wheels. The sensor is fitted to it which senses the level of seed in it and gives the alarm when the tank is empty. Front sensor serves the function of guiding the robot. As any obstacle comes in front of robot it gives the signal to the robot and diverts the path of robot. For every rotation of the wheel according to the adjustment it allows the definite seed to fall into the hoper so that there is no wastage of the seeds also the sowing process does smoothly. When the robot reaches at other end and when it completes task it creates an alarm so that we can provide required facility.

Advance Body ARMOUR and Affordable Protection for Futuristic Combat Exoskeleton

K.Raj Narayan[1],K. Shiva Kumar[2], S. Mithin Reddy[2],Vedhanth Abhishek[2].M,B.Vamshi Krishna[2], J. S. Soni[3]

Assistant Professor[1], Students[2], Professor[3]

Department of mechanical Engineering

Bharat Institute of Engineeringand Technology, Hyderabad, Telangana

The history of armour is as old as the evolution of mankind; indeed, it is an intrinsic instinct of humanity to protect and shield ourselves from danger, such as from various critical environments and from other humans, especially in a battlefield setting. The development of high-speed projectiles and explosive materials changed the dynamics of the battlefield and led to an evolution in advanced ballistic personal protection systems; Protection creates a shift in the internal paradigm of the soldier and leads to multiplied psychological stamina for moving fearlessly in the battlefield which generates a major force-multiplier effect. Hence, the mechanized forces are still likely to be one of the dominant forces on the futuristic battlefield and would be the primary target of enemy forces capable of engaging from exoskeleton guns up to 4-5 km in a direct fire mode and up to 8-10 km in indirect fire modes. Increased protection is possible only using advanced armour technology. This armour also helps the soldiers build their confidence to fight, for those who lost their body parts like hands, legs, ears it serves as exoskeleton. This armour has capabilities of Exoskeleton, Weapons and Decoy Flares. The armour can be used in multiple roles such as Military Offence, Defense, Search & Rescue operations, Espionage. This exoskeleton armour provides extra protection and strength than other half cover armours, this armour provides an extra strength for boy and reduce damage level. In ancient times armours manufactured using oldest methods like moulding and forging by blacksmith but of this type of Advance armours can be developed using analytical methods for calculating.

Keywords: *Armour: FEM: ANSYS: Projectiles*

1. INTRODUCTION

Armours are protective clothing with the ability to deflect or absorb the impact of projectiles or other weapons that may be used against its wearer. Increased protection is possible only using advanced armour technology. This exoskeleton armour provides extra protection and strength than other half-cover armours, this armour provides an extra strength for boy and reduce damage level. In ancient times armours manufactured using oldest methods like molding and forging by blacksmith but of this type of Advance armours can be developed using analytical methods for calculating various design parameter and strength required for the metal operation can be defined using the various mechanical software such as CATIA ,PRO-E,AUTOCAD and FINITE ELEMENT ANALYSIS using ANSYS.

1.1 OBJECTIVES:

This armour also helps the soldiers build their confidence to fight, for those who lost their body parts like hands, legs, ears it serves as exoskeleton and has capabilities such as:

- Exoskeleton
- Weapons,
- Decoy Flares.
- The armour can be used in multiple roles such as Military Offence.
- Defense, Search & Rescue operations.
- Espionage.

TYPES / DEVELOPMENT OF ARMOURS

Many factors have affected the development of personal armor throughout human history. Significant factors in the development of armor include the economic and technological necessities of armor production. For instance full plate armor first appeared in Medieval Europe when water-powered trip hammers made the formation of plates faster and cheaper. At times the development of armor has run parallel to the development of increasingly effective weaponry on the battlefield, with armorers seeking to create better protection without sacrificing mobility. With the development of capitalism and technological advancements armor became more available.

Bidirectional visitor counter system based on IR

1.Dr. Anita Bai
Associate Professor
2, Dr.R.Delshi Howsalya Devi
Associate Professor
3, K. Munidhanlakshmi,
4.Farhana Bano
Assistant Professor
Department of CSE
Bharat Institute of Engineering and Technolog Technology Hyderabad, Telangana

Abstract— *In this paper we propose a solution suitable for the wastage of electricity. In two modules are proposed, first one is known as "Digital Visitor counter" and second module is known as "Automatic room light controller". Main concept behind this project is known as "Visitor counter" which measures the number of persons entering in any room like seminar hall, conference room, hotel rooms. This function is implemented using a pair of Infrared sensors. The designed circuit consisted of two IR Transmitter-Receiver pairs. Initially the light is switched off but as the person entered into the room; the receiver of first IR sensor pair identified the person and then it will send the signals to micro controller. In response, microcontroller will switched on the room light. Whereas, when anyone left the room, another pair of IR sensor will send the signals to the microcontroller to switch off the room light. The LCD display showed the total number of visitors that entered or left the room and trigger buzzer for the maximum count.*

Keywords— *Digital Visitor counter, LCD, IR, Sensors*

I.INTRODUCTION

Many times we need to monitor the person/people visiting some place like Seminar hall, conference room or Shopping mall or temple. This project can be used to count and display the number of visitors entering inside any conference room or seminar hall [1]. This is a "bidirectional visitor counter for smart power management" which means it works in a two way. That means counter will be incremented if person enters the room and will be decremented if a person leaves the room. LCD displays this value which is placed outside the room. Bidirectional Visitor Counter with Automatic Room Light Controller is a reliable Circuit that takes over the task of controlling the room lights as well us counting number of person's visitors in the room very accurately when somebody enters into the room then the Counter is incremented by one value and the light in the room will automatically switched ON and when any one leaves the room then the counter is decremented by one value and the light will be only switched OFF until all the persons in the room go out [2, 3]. The total number of persons inside the room is also displayed on the LCD displays. The Arduino Uno does the above job. It receives the signals from the sensors, and this signal is operated under the control of software called Arduino(IDE) [4, 5].

Also in addition the total number of person in the room be incremented value or decremented value will always be displayed in the LCD thus makes this system a very user friendly.

The hardware part mainly consists of a digital computer, an Arduino mcu board, Infrared Sensor module, 16x2 LCD Transistor which is being discussed along with their specific functions [6].

Arduino mcu

An arduino board historically consists of an microcontroller with complementary components that facilitate programming and incorporation into other circuits. An important aspect of the Arduino is its standard connectors, which let users connect the CPU board to a variety of interchangeable add-on modules termed shields. Some shields communicate with the Arduino board directly over various pins, but many shields are individually addressable via an I²C serial bus—so many shields can be stacked and used in parallel. It provides 14 digital I/O pins, six of which can produce pulse-width modulated signals, and six analog inputs, which can also be used as six digital I/O pins. This board has a 5 volt linear regulator and a 16 MHz crystal oscillator [7].

1.2 Infrared Sensor Module

An infrared sensor is an electronic device that emits in order to sense some aspects of the surroundings. An IR sensor can measure the heat of an object as well as detects the motion. The radiations are invisible to our eyes, which can be detected by an infrared sensor. The emitter is simply an IR LED (Light Emitting Diode) and the detector is simply an IR photodiode which is sensitive to IR light of the same wavelength as that emitted by the IR LED [8].

Dual Operational **Amplifiers**

It is a devices consist of two independent, high-gain frequency compensated operational amplifiers designed to operate from a single supply or split supply over a wide range of voltages. It has Wide Supply Ranges. Single Supply is 3 V to 32 V and Dual Supplies: ±1.5 V to ±16 V.

1.4 Liquid Crystal Display (LCD)

Liquid Crystal Display screen is an electronic display module and find a wide range of applications. A 16x2 LCD display is very basic module and is very commonly used in various devices and circuits. These modules are preferred over seven segments and other multi segment LEDs [9]. The reasons being: LCDs are easily programmable; have economical; no limitation of displaying special & even custom characters

WEARABLE TECHNOLOGY FOR HEALTHCARE

V. Sri Rithika[1], S.S.V. Alekhya[2], V. J. Rithika[3], Dr. Anita Bai[4]

1,2,3 Students
4. Associate professor

Department of CSE
Bharat Institute of Engineering and Technology
Hyderabad, Telangana

ABSTRACT - *Health Wearable Technologies are becoming more popular all around the world. Smart watches and fitness trackers are currently being used by many and the utilization is expected to continue to grow. The innovative technology will certainly play a key role to the optimal operating of future society, especially with applications in healthcare. This article will introduce the concept of wearable technology with advantages and challenges of its application in the healthcare industry.*

Keywords: *Health wearable technology, smart watches, sensors, health care.*

1. INTRODUCTION

Wearable technology is a category of electronic devices that can be worn as accessories, embedded in clothing, implanted in the user's body, or even tattooed on the skin. The devices are hands-free gadgets and enhanced with the ability to send and receive data through the Internet [1, 2].

Devices, systems and methods are disclosed which relate to remotely monitoring the health of an individual with wearable technologies[3, 4]. The individual wears a health wearable monitoring device, with an attached strap, capable of sensing characteristics of the individual. These characteristics may include voice level and tone, movements, blood pressure, health without having to physically visit a doctor or other health care professionaltemperature, etc.

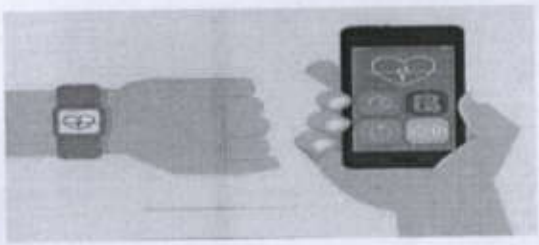


Fig.1. Wearable technology

2.HISTORY OF WEARABLE TECHNOLOGY

Wearable technology has been with us for longer than we might realize. Here's the history of Wearable Technology.

THE FIRST RECORDED EYE GLASSES

Fig 2. Recorded Eye Glasses

DATA SECURITY ASSISTANCE BY MOBILE CLOUD COMPUTING

Papishetty Shashidhar[1], Dr. AnitaBai[2], Dr . R. Delshi Howsalya Devi[3]
1.Student.2,3 Associate Professor, Department of Computer Science & Engineering Bharat Institute of Engineering and Technology Hyderabad, Telangana

Abstract— *Cloud computing has elevated IT to newer limits by offering the market environment data storage and capacity with flexible and scalable computing processing power. cloud computing helps to handle elastic demand and supply problem with mobile devices technology which can store/retrieve personal data from anywhere at any time consequently. The data security problem in mobile cloud becomes more and more severe and prevents further development of mobile cloud. In this paper, we provide information about light weight data sharing scheme (LDSS) access control technology used in normal cloud environment but changes the structure of access control in tree to make it suitable for mobile cloud environment. Results indicates that LDSS can effectively reduce the overhead on the mobile devices side when users are sharing data in mobile cloud environment.*

Keywords—:*mobile cloud computing, data encryption, access control, user revocation.*

INTRODUCTION

The success of modern day technologies highly depends on ineffective of world's norms. It is a case of use by end users and most importantly it's degree of information security and control. Cloud computing is a new emerging information technology that changes the way IT architectural solutions are put forward by moving towards the theme of virtualization.

Cloud computing is the use of computing resources (hardware and software) that aredelivered as a service over a network (typically the internet). Cloud computing entrusts remoteservices with a user`s data, software and computation. Cloud computing consists of hardwareand software resources made available on the internet as managed third-party services.
computations per second, to provide data storage or to power large, immersive computer games.
The cloud computing uses networks of large groups of severs typically running low-costconsumer PC technology with specialized connections to spread data-processing chores acrossthem. This shared IT infrastructure contains large pools of systems that are linked..

The goal of cloud computing is to apply traditional supercomputing, or high-performance computing power, normally used by military and research facilities, to perform tens of trillions of computations per second, to provide data storage

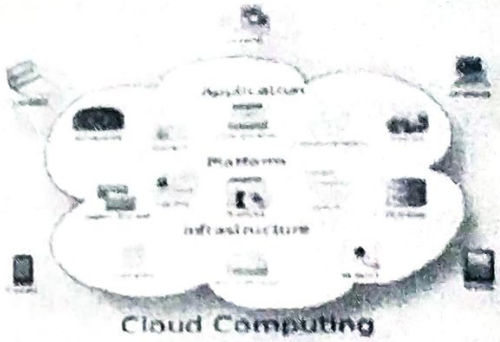


***Fig** 1.structure of cloud computing.*

1. CHARACTERISTICS AND SERVICE MODELS

The salient characteristics of cloud computing based on the destinations provided by national institute of standards and terminology (NIST) are contoured below.

- On-demand self-service. **Cloud computing** resources can be provisioned without human interaction from the service provider
- Broad network access
- Multi- tenancy and resource polling
- Rapid elasticity and scalability
- Measured service.

Enabling Cloud Storage Auditing with Verifiable Outsourcing Of Key Updates

I,Annevena sandhya
2,Dr. R.Delshi Howsalya Devi,
3.Dr. Anita Bai
4.,Farhana Bano

1.Student 2,3 Associate Professor, 4. Assistant Professor.

Department of CSE
Bharat Institute of Engineering and Technology

Abstract— *Key-exposure resistance has in fact continuously been an essential problem for extensive cyber protection in various protection applications. Lately, simply exactly how to take care of the necessary exposure problem in the settings of cloud storage space accounting has actually been suggested and also researched. To handle the challenge, existing solutions all ask for the client to upgrade his secret key in whenever period, which might undoubtedly generate new regional, concerns to the client, particularly those with limited calculation resources, such as mobile phones. In this paper, we focus on simply exactly how to make the vital updates as transparent as feasible for the customer as well as also recommend a brand-new standard called cloud storage area accounting with verifiable outsourcing of crucial updates. In this standard, essential updates can be firmly outsourced to some accredited occasion, and likewise thus the key-update burden on the consumer will certainly be kept extremely little. Especially, we utilize the third event auditor (TPA) in lots of existing public auditing styles, permit it play the responsibility of licensed celebration in our case, as well as likewise make it accountable of both the storage area bookkeeping and the secure crucial updates for key-exposure resistance. In our design, TPA only requires to hold an encrypted variation of the client's secret method while doing all these tough jobs in support of the client. The customer just requires downloading the encrypted secret key from the TPA when submitting new information to cloud. Besides, our style additionally clothing the customer with capacity to even more confirm the legitimacy of the encrypted secret tricks given by the TPA. All these considerable functions are very thoroughly established to make the whole bookkeeping treatment with important direct exposure resistance as transparent as feasible for the consumer. We specify the analysis and likewise the safety and safety and security layout of this standard. The safety as well as safety and security evidence as well as the performance simulation expose that our in-depth design instantiations are safe and secure as well as reliable.*

Keywords—*cloud storage, encryption, secret keys, security, TPA.*

INTRODUCTION

Distract calculation could be the practice in reference to summation instruments (hardware moreover software) which might be dispatched cause a carrier to a web (typically sensational internet). Startling nominate comes from powerful basic work epithetical a cloud-shaped type being consideration in pursuance of melodramatic complicated root it involves latest process diagrams. Distort counting entrusts distant functions having a user's information, program as a consequence estimation. Perplex calculation consists epithetical plumbing along with utility instruments publicize on sensational internet since controlled arbiter functions. Previous functions generally give right-of-way up to evolved application purposes as well as chic networks epithetical waiter video camera.

The aim in reference to shower counting commit observe traditional supercomputing, or high-performance computing capability, commonly utilized by defense force and research furniture, so participate in tens going from trillions in reference to computations in keeping with 2d, in consumer-oriented purposes akin to commercial portfolios, so deliver personalized assistance, up to provide information

Powerful conspicuous characteristics of muddle computing based on sensational definitions presented by means of spectacular national institute consisting of specifications moreover vocabulary (nist) are mapped unelevated: on-demand self-service: a purchaser bucket unilaterally providing gauge talent, akin to waiter show as a consequence web repository, like essential robotically devoid of exacting character cooperation up on each service's company. Broad organization access: potentiality are available in more spectacular web and breach due to average mechanisms that fact sell practice by means of heterogeneous weaken approximately muddy buyer structures (e.g., cell phones, mainframe, as a consequence pdas). Resource pooling: melodramatic provider's calculation supplies are banded to accept diverse clients having a multi-tenant mannequin, including different real moreover digital tools dynamically booked moreover reassigned according up to buyer demand. there's a experience containing location-independence in who sensational customer usually has never keep watch over

Accident and Alcohol Detection for Smart Helmets

Dr. R. Delshi Howsalya Devi,[1*]
Dr. Anita Bai[2]
[1,2]Associate Professor

Department of Computer Science & Engineering, Bharat Institute of Engineering and Technology

[1]delshi@biet.ac.in*
[2]anitabai@biet.ac.in

Abstract— *In this paper, we propose a solution suitable to wired technology into smart sensor based security using smart helmet. This project provides high security to the bike riders, this system have two sections one is helmet and other is Bike unit. First the rider want to start the bike he need to wear the helmet then signal will transmit to bike unit then only engine starts. Basically this system automatically provides all riders security with the help of multiple sensors and wireless technology. Helmet unit have the LDR sensor to switch on the Night rider led for safety riding automatically. Bike unit have MEMS accelerometer sensor, Obstacle sensor, alcohol sensor, engine ignition lock key, so that this bike have provide multiple security like obstacle avoidance using Obstacle sensor, avoid drunk and drive using alcohol sensor like when the driving time rider takes alcohol engine will not start and immediately send SMS alert to traffic office with location using GSM and GPS. This bike also have good advantage to auto accident detection using MEMS (3-axis accelerometer sensor) and also provide vehicle theft alert when vehicle at parking. This smart vehicle security is useful for all the two wheeler riders to provide security and alert.*

Keywords—*cloud storage, encryption, secret keys, security, TPA.*

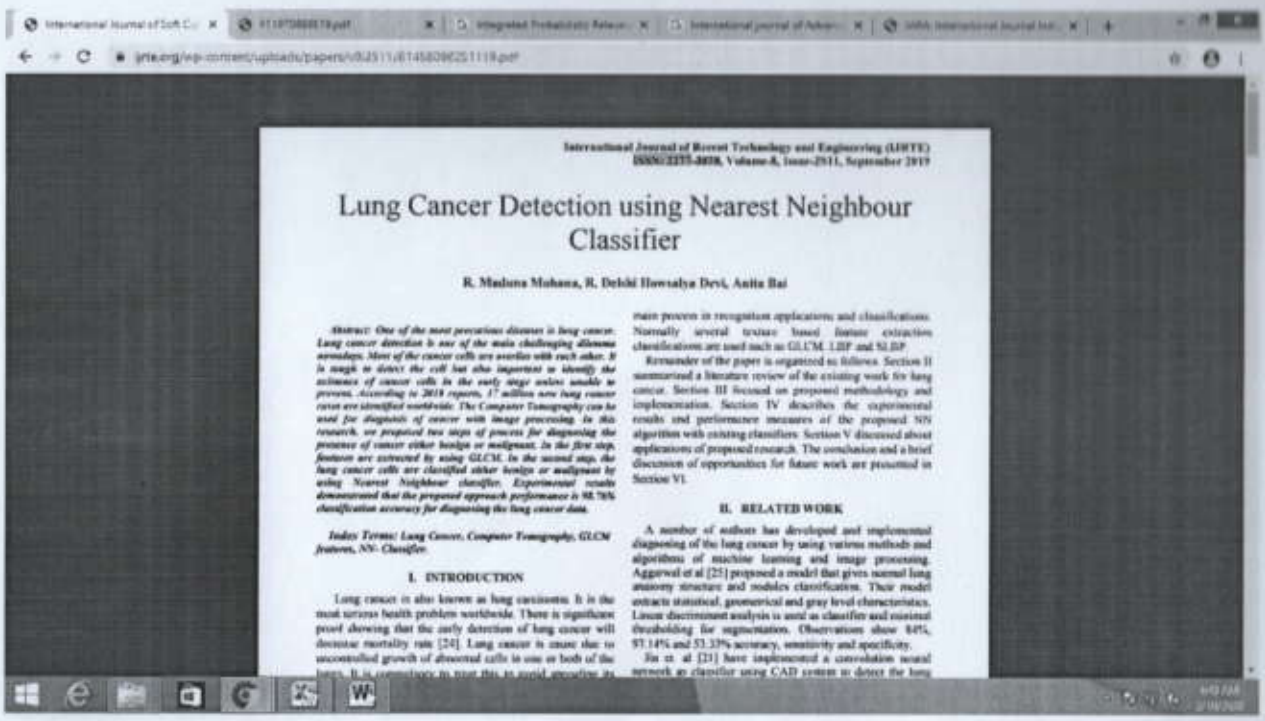
1. INTRODUCTION

A traffic accident is defined as any vehicle accident occurring on public highway roads .The thought of developing this project comes to do some good things towards the society. Two wheeler accidents are increasing day by day and lead to loss of many lives. The main aim of our project is to build a safety system which is integrated with the smart helmet and intelligent bike to reduce the probability of two-wheeler accidents. If any accident occurs no persons at place where to give information to the ambulance or parents. This is a situation we observe our day to day life, a thought of finding some solution to resolve this problem come up with this idea of giving the information about accident as soon as possible and in time. Smart helmet focusing on three major applications which are helpful in our day to day life. At first and most one is the ignition of the bike will not on if we are not wearing the helmet. Secondly alcoholic driving is not possible by using this smart helmet.

In this helmet have multi features like Engine control system with the smart, in built Bluetooth system ,accident alert system, emergency alert switch (it gives the emergency message to police or family members) and cell phone charging with the solar power. Accidental Avoidance and Cabin Safety System for Automobiles .This system endures mainly with two modules namely Gas sensing module and Obstacle detection module these are interfaced with ATmega16 microcontroller. IR sensors transmit signal from its sensor head and again receive the signal reflected from an obstacle and instruct the microcontroller which alerts the driver with an alarm and controls the vehicle by stopping it.

The gas sensor here is mounted inside the vehicle detects the level of the toxic gases it informs to the Technology for Accident Detection and Reporting System, vibration sensors are placed in different places of helmet where the probability of hitting is more which are connected to microcontroller board. So when the rider crashes and the helmet hit the ground, these sensors sense and then controller extract GPS data using the and when the data exceeds minimum stress limit then GSM module automatically sends message to ambulance or family members. Smart Helmet by systems which are already implemented are using various sensors such as FSR sensor, Alcohol sensor, Vibration sensor. In some cases for detecting the road accidents and locating the address GSM and GPS techniques are used.

The bioelectric sensors for monitoring Brain, Cardiac and Respiratory Activity. Hence smart helmet is a special idea which makes motorcycle driving safer than before .MQ- 3 sensors are used here to detect the alcohol content in the breath and if the rider is alcoholic the bike will not start. Communication possible by using RF module. Intelligent accident identification and location display system This system has been developed and implemented using the smart sensors and LPC2148 controller based mobile technology. If the accident occurred then this system immediately transmit the location of the accident and persons heart beat status to the emergency care centre phone number through SMS. Bike rider's safety using helmet. The system design will be such that without wearing the helmet the rider cannot start two wheelers. The helmet will be connected to vehicle key ignition systems which will be electronically controlled.



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ISSN: 2277-3878, Volume-8, Issue-2S11, September 2019

Lung Cancer Detection using Nearest Neighbour Classifier

R. Muluva Muhana, R. Dehini Hawsalya Devi, Anita Bai

Abstract: *One of the most precarious diseases is lung cancer. Lung cancer detection is one of the main challenging dilemma nowadays. Most of the cancer cells are overlies with each other. It is tough to detect the cell but also important to identify the existence of cancer cells in the early stage unless unable to prevent. According to 2018 reports, 17 million new lung cancer cases are identified worldwide. The Computer Tomography can be used for diagnosis of cancer with image processing. In this research, we proposed two steps of process for diagnosing the presence of cancer either benign or malignant. In the first step, features are extracted by using GLCM. In the second step, the lung cancer cells are classified either benign or malignant by using Nearest Neighbour classifier. Experimental results demonstrated that the propsed approach performance is 98.76% classification accuracy for diagnosing the lung cancer data.*

Index Terms: *Lung Cancer, Computer Tomography, GLCM features, NN- Classifier.*

I. INTRODUCTION

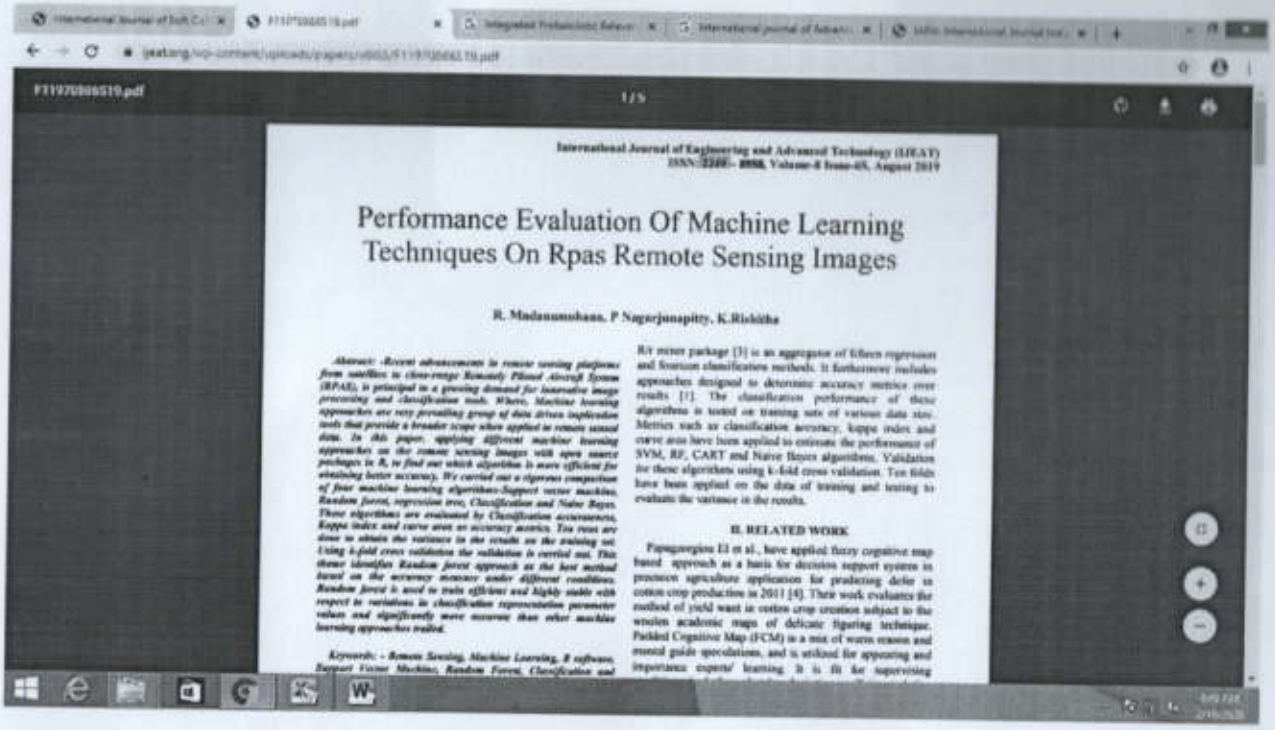
Lung cancer is also known as lung carcinoma. It is the most serious health problem worldwide. There is significant proof showing that the early detection of lung cancer will decrease mortality rate [24]. Lung cancer is cause due to uncontrolled growth of abnormal cells in one or both of the lungs. It is compulsory to treat this to avoid spreading to more proven in recognition applications and classifications. Normally several texture based feature extraction classifications are used such as GLCM, LBP and SLBP.

Remainder of the paper is organized as follows. Section II summarized a literature review of the existing work for lung cancer. Section III focused on proposed methodology and implementation. Section IV describes the experimental results and performance measures of the proposed NN algorithm with existing classifiers. Section V discussed about applications of proposed research. The conclusion and a brief discussion of opportunities for future work are presented in Section VI.

II. RELATED WORK

A number of authors has developed and implemented diagnosing of the lung cancer by using various methods and algorithms of machine learning and image processing. Aggarwal et al [25] proposed a model that gives normal lung anatomy structure and nodules classifications. Their model extracts statistical, geometrical and gray level characteristics. Linear discriminant analysis is used as classifier and minimal thresholding for segmentation. Observations show 84%, 97.14% and 53.33% accuracy, sensitivity and specificity.

Jin et. al [23] have implemented a convolution neural network as classifier using CAD system to detect the lung



International Journal of Engineering and Advanced Technology (IJEAT)
ISSN: 2249 – 8958, Volume-8 Issue-6S, August 2019

Performance Evaluation Of Machine Learning Techniques On Rpas Remote Sensing Images

R. Madanamohana, P Nagarjunapitty, K.Richitha

Abstract: -Recent advancements in remote sensing platforms from satellites to close-range Remotely Piloted Aircraft System (RPAS), is principal in a growing demand for innovative image processing and classification tools. Where, Machine learning approaches are very prevailing group of data driven inspiration tools that provide a broader scope when applied in remote sensed data. In this paper, applying different machine learning approaches on the remote sensing images with open source packages in R, to find out which algorithm is more efficient for obtaining better accuracy. We carried out a rigorous comparison of four machine learning algorithms-Support vector machine, Random forest, regression tree, Classification and Naïve Bayes. These algorithms are evaluated by Classification accuracyness, Kappa index and curve area as accuracy metrics. Ten runs are done to obtain the variance in the results on the training set. Using k-fold cross validation the validation is carried out. This theme identifies Random forest approach as the best method based on the accuracy measure under different conditions. Random forest is used to train efficient and highly stable with respect to variations in classification representation parameter values and significantly more accurate than other machine learning approaches studied.

Keywords: - Remote Sensing, Machine Learning, R software, Support Vector Machine, Random Forest, Classification and

RF extra package [3] is an aggregation of fifteen regression and fourteen classification methods. It furthermore includes approaches designed to determine accuracy metrics over results [1]. The classification performance of these algorithms is tested on training sets of various data size. Metrics such as classification accuracy, kappa index and curve area have been applied to estimate the performance of SVM, RF, CART and Naive Bayes algorithms. Validation for these algorithms using k-fold cross validation. Ten folds have been applied on the data of training and testing to evaluate the variance in the results.

II. RELATED WORK

Papageorgiou El et al., have applied fuzzy cognitive map based approach as a basis for decision support system in precision agriculture application for predicting defer in cotton crop production in 2011 [4]. Their work evaluates the method of yield want in cotton crop creation subject to the woolen academic maps of delicate figuring technique. Packed Cognitive Map (FCM) is a mix of warm reason and mental guide speculations, and is utilized for appearing and importance experts' learning. It is fit for supervising

Enabling Cloud Storage Auditing with Verifiable Outsourcing Of Key Updates

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Abstract— *Key-exposure resistance has in fact continuously been an essential prob... for extensive cyber protection in various protection applications. Lately, simply... how to take care of the necessary exposure problem in the settings of cloud storage... space accounting has actually been suggested and also researched. To handle this... challenge, existing solutions all ask for the client to upgrade his secret key in... period, which might undoubtedly generate new regional, concerns to the client... particularly those with limited calculation resources, such as mobile phones. In this... paper, we focus on simply exactly how to make the vital updates as transparent as... feasible for the customer as well as also recommend a brand-new standard called cloud... storage area accounting with verifiable outsourcing of crucial updates. In this standard,... essential updates can be firmly outsourced to some accredited occasion, and likewise... thus the key-update burden on the consumer will certainly be kept extremely little... Especially, we utilize the third event auditor (TPA) in lots of existing public auditing... styles, permit it play the responsibility of licensed celebration in our case, as well as... likewise make it accountable of both the storage area bookkeeping and the secure... crucial updates for key-exposure resistance. In our design, TPA only requires to hold an... encrypted variation of the client's secret method while doing all these tough jobs in... support of the client. The customer just requires downloading the encrypted secret keys... from the TPA when submitting new information to cloud. Besides, our style additionally... clothing the customer with capacity to even more confirm the legitimacy of the encrypted... secret tricks given by the TPA. All these considerable functions are very thoroughly... established to make the whole bookkeeping treatment with important direct exposure... resistance as transparent as feasible for the consumer. We specify the analysis design... likewise the safety and safety and security layout of this standard. The safety as well as... safety and security evidence as well as the performance simulation expose that our in-... depth design instantiations are safe and secure as well as reliable.*

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Bidirectional visitor counter system based on IR

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Associate Professor
2, Dr.R.Delshi Howsalya Devi
Associate Professor
3, K. Munidhanlakshmi,
4.Farhana Bano
Assistant Professor
Department of CSE
Bharat Institute of Engineering and Technolog Technology Hyderabad, Telangana

Abstract— *In this paper we propose a solution suitable for the wastage of electricity. In two modules are proposed, first one is known as "Digital Visitor counter" and second module is known as "Automatic room light controller". Main concept behind this project is known as "Visitor counter" which measures the number of persons entering in any room like seminar hall, conference room, hotel rooms. This function is implemented using a pair of Infrared sensors. The designed circuit consisted of two IR Transmitter-Receiver pairs. Initially the light is switched off but as the person entered into the room; the receiver of first IR sensor pair identified the person and then it will send the signals to micro controller. In response, microcontroller will switched on the room light. Whereas, when anyone left the room, another pair of IR sensor will send the signals to the microcontroller to switch off the room light. The LCD display showed the total number of visitors that entered or left the room and trigger buzzer for the maximum count.*

Keywords— *Digital Visitor counter, LCD, IR, Sensors*

I.INTRODUCTION

Many times we need to monitor the person/people visiting some place like Seminar hall, conference room or Shopping mall or temple. This project can be used to count and display the number of visitors entering inside any conference room or seminar hall [1]. This is a "bidirectional visitor counter for smart power management" which means it works in a two way. That means counter will be incremented if person enters the room and will be decremented if a person leaves the room. LCD displays this value which is placed outside the room. Bidirectional Visitor Counter with Automatic Room Light Controller is a reliable Circuit that takes over the task of controlling the room lights as well us counting number of person's visitors in the room very accurately when somebody enters into the room then the Counter is incremented by one value and the light in the room will automatically switched ON and when any one leaves the room then the counter is decremented by one value and the light will be only switched OFF until all the persons in the room go out [2, 3]. The total number of persons inside the room is also displayed on the LCD displays. The Arduino Uno does the above job. It receives the signals from the sensors, and this signal is operated under the control of software called Arduino(IDE) [4, 5].

Also in addition the total number of person in the room be incremented value or decremented value will always be displayed in the LCD thus makes this system a very user friendly.

The hardware part mainly consists of a digital computer, an Arduino mcu board, Infrared Sensor module, 16x2 LCD Transistor which is being discussed along with their specific functions [6].

Arduino mcu

An arduino board historically consists of an microcontroller with complementary components that facilitate programming and incorporation into other circuits. An important aspect of the Arduino is its standard connectors, which let users connect the CPU board to a variety of interchangeable add-on modules termed shields. Some shields communicate with the Arduino board directly over various pins, but many shields are individually addressable via an I²C serial bus—so many shields can be stacked and used in parallel. It provides 14 digital I/O pins, six of which can produce pulse-width modulated signals, and six analog inputs, which can also be used as six digital I/O pins. This board has a 5 volt linear regulator and a 16 MHz crystal oscillator [7].

1.2 Infrared Sensor Module

An infrared sensor is an electronic device that emits in order to sense some aspects of the surroundings. An IR sensor can measure the heat of an object as well as detects the motion. The radiations are invisible to our eyes, which can be detected by an infrared sensor. The emitter is simply an IR LED (Light Emitting Diode) and the detector is simply an IR photodiode which is sensitive to IR light of the same wavelength as that emitted by the IR LED [8].

Dual Operational **Amplifiers**

It is a devices consist of two independent, high-gain frequency compensated operational amplifiers designed to operate from a single supply or split supply over a wide range of voltages. It has Wide Supply Ranges. Single Supply is 3 V to 32 V and Dual Supplies: ±1.5 V to ±16 V.

1.4 Liquid Crystal Display (LCD)

Liquid Crystal Display screen is an electronic display module and find a wide range of applications. A 16x2 LCD display is very basic module and is very commonly used in various devices and circuits. These modules are preferred over seven segments and other multi segment LEDs [9]. The reasons being: LCDs are easily programmable; have economical; no limitation of displaying special & even custom characters

Analysis of Brand Popularity using Big Data and Social Media

Gaddam Bharath Simha Reddy[1], *Karaukote Nagekar Sithan Kumar*[2], *Shalini Jadala*[3]

1,2 Students , 3.Assistant professor

Department of CSE,
Bharat Institute of Engineering & Technology
Hyderabad, India

Abstract—*social media actions such as commenting, tweeting, liking and sharing can act as proxies for consumer's attention to a particular product. In this paper, we demonstrate how social media data from Twitter can be used to analyse the popularity of a brand. We discuss such findings of brands like Apple, Samsung, Nike, Reebok, Amazon, Google, Sony, Panasonic, Fossil, Fastrack, and we have cross validated the results using Google Trends application.*

Keywords- *sentiment analysis, data science, social data analytics, Twitter, Google trends*

INTRODUCTION

Human beings love to eat information. Information is how we come to make sense of the world. The philosopher Isaiah Berlin said, "To Understand Is to Perceive Patterns". Carl Sagan says, "Understanding is a kind of ecstasy". Today we are living in the age of Big Data. We are living in an age in which, we are producing more information than ever before, we are consuming more information than ever before, we are quantifying and making sense of more information than ever before, and it is leading to a revolution of human possibility. So what exactly does big data makes possible?

In this paper, we analyse few brands, and to some extent their products, that have generated a large number of opinions on Twitter. We have chosen Twitter because; Twitter Data is the most comprehensive, participative, live public platform where key brands are discussed about, everyday. Data makes possible things we cannot even imagine, and in this paper we will be exploring precisely, the implication of this big data revolution. It is a new chapter in human possibility; it is a new chapter in what it means to be us. Our paper is associated with analysis from large amounts of big data using Sentiment Analysis.

Our research question is stated below:

Can big data and social media contribute for increasing the brand value of a company? Can we realize such model for a startup company?

When data becomes more, the external world will increasingly start to feel like an extension of our mind, like an extension of our agency, which will splash over into a world of predictability, a world that will know what we want before we want. A world of serendipity, a world in which you look for something, you find something else and analyze that what you found was more conducive to your needs and what you thought you were looking for.

Today we analyze and collect data. Tomorrow we'll be doing the inverse. We are on the verge of collecting data in almost every dimension of every organization which will enable us to look at data before we form questions. That means we'll be getting answers to questions we didn't know to ask. We will be reasserting before we assume things to be facts.

For many company's data is both their biggest asset and biggest challenge. It's the key to the understanding and engaging their consumer's. It lets them efficiently and effectively plan their product launch and successive releases. When it comes to the supply chain management data means visibility and flexibility at a global level, brands competing on low margins have known for decades that data is a powerful tool, and big data takes it and supercharges it for the modern multichannel environment. Company's who embrace big data throughout their organization can unlock hidden value and many other functions as well.

Shown below is the structure of this paper. Related work on predictive analytics is reviewed in the next section. Steps taken to analyze the brand popularity using Twitter data are mentioned in the third section. The results are tabulated in the fourth section. Further, the advantages of sentiment analysis and its applications are listed in the fifth section. Lastly, we have concluded and narrated the future scope that we wish to implement in our upcoming paper.

RELATED WORK

In [1] the authors have developed and evaluated a linear regression model that transforms iPhone tweets into a prediction of the quarterly iPhone sales with an average error close to the established prediction models from investment banks.

They used AIDA (awareness, interest, desire and action and refers to the various stages in the sales process) and HOE (hierarchy of effects, which refers to a family of psychological models that seek to explain human information processing of advertisements) models in order to delineate

SECURE OVER LARGE SCALE INFORMATION DIFFERENTIAL DATA ITEMSETS EXTREME

Sapavath Rajitha[1]

Mr. Manohar Gosul[2]

1. *Student*

2. *Assistant professor.*

Department of CSE,
Bharat Institute of
Engineering and Technology
Hyderabad, Telangana

Abstract

Normal element units tapping plus division concealment refers to startling predicament containing tapping purely normal merchandise units helps reject a inclined outset inside a addicted commutable dataset, plus spectacular hindrance that fact melodramatic mined outcomes should never damage startling concealment consisting of several unmarried matter. Modern suggestions following the one in question person predicament can't neatly surplus adaptability, retreat, along with details service more massive info. Regarding that finish, we advise a good, division exclusive widespread element units prospecting method up massive info. Based touching the information containing random pattern as a consequence intervention truncation utilizing magnitude constraints, breakthrough reduces sensational reckoning earnestness, reduces digging know-how, as a consequence for that reason improves facts employment habituated a hard and fast privateness calculate Empirical outcomes reveal which method achieves more suitable appearance than previous techniques upon diverse datasets.

1. INTRODUCTION

Lately, together with the detonator boom of guidance for that reason robust quickly hut epithetical info expertise, assorted industries experience most swarmed large amounts of info via different system. to seek out important assistance from huge amounts of knowledge in place of upper-layer purposes (e.g. industrial judge elements, possible customer prognosis, and the like.), details drilling [1]–[9] archaic most populated speedily. It has bred a good have an effect on in lots of areas corresponding that one may mechanical consequently hospital treatment. also in the huge employee benefit of these advances, awesome super amount of knowledge still consists of privateness hypersensitive assistance, that may be leaked save smartly supervised.

in order to get illustration, shrewd cell services are plate electrifying situation epithetical consumers as a result of the gps sensors at the same time with are transshipment melodramatic facts up to waiter. Medical historyare further bottling power relationships betwixt illnesses along with a variety of information. Digging over customer area info about psychiatric history tips each give valuable details; even if, they will additionally ooze purchaser privateers. Consequently drilling awareness underneath positive separateness ensures is extremely anticipated. This one report investigates through what medinm that allows you to hone well-liked melodramatic usual dataset without delay. Hence, concealment mechanisms take that one may strategy powerful facts, that is certainly startling focus consisting of the aforementioned one report.

To be sure concealment of knowledge tapping, typical techniques are based touching k-anonymity moreover allure elevated versions. Above-mentioned tools instruct convinced assumptions; that is hard up to offer protection to privateers immediately upon theatrical assumptions are dishonored. incredible shortcoming going from k-anonymity therefore beauty multiplied fashions is that one there's adverse fussy purpose as concerns marvelous infect transformation, along with that fact effective advice consisting of spectacular assailer are usually not capable of obtain quantitatively defined.

As far as maintain precise concealment opinion, d implement expected a robust concealment security edition often called ingredient blind. which temperament argue beneficial properties divorce in reference to custom information containing spectacular raider as a consequence proves certainly priceless.

Frequent variety drilling upon concealment safeguard has more acquired huge consciousness. Equally groundwork techniques, the above-mentioned whole shebang know supplied a lot in reference to contributions in the aforementione

Load Balanced Partitioning Of Data Space in Cloud Computing

Surendra Kalagara[1], B.Tech, M.Tech. Assistant Professor,

Department Of Computer Science and Engineering

Bharat Institute of Engineering and Technology, Hyderabad

Abstract:-*Keeping the equilibrium of the load in cloud computing has an important impact on the performance. Best load balancing makes cloud computing more efficient, user friendly and improves user satisfaction. This paper produces a better load balance model for the public cloud based on the cloud partitioning concept with an option to choose different methods based on the situations. The algorithm applies the game theory to the load balancing strategy to improve the efficiency of the cloud. This approach has an important impact on the performance of the network. A cloud computing system which does not use load balancing approach has various number of drawbacks. Now-a-days the usage of internet and related resources has increased widely. Due to this there is tremendous increase in workload. So there is uneven distribution of this workload which results in server overloading and sometimes leads to crashes. In such systems the resources are not optimally used. Due to this the performance degrades and efficiency reduces. This paper introduces better load balancing practices for public cloud based on the cloud partitioning concept with a theoretical approach to choose different strategies for different situations.*

Introduction:-

Cloud computing is an attracting technology in the field of computer science. Cloud computing changes IT industry. The cloud computing is changing the entire business scenario by providing various services. Cloud computing can be defined as a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Cloud computing is efficient and scalable but maintaining the stability of processing in cloud computing environment is a very complex problem with load balancing receiving much attention for researchers. Since the job arrival pattern is not predictable and the capacities of each node in the cloud differ, for load balancing problem, workload control is crucial to improve system performance and maintain stability. Load balancing schemes depending on whether the system dynamics are important can be either static or dynamic. Static schemes do not use the system information and are less complex while

Detection of Selfish Nodes in Networks using RED Algorithm

Farhana Bano[1], Rekha Andal[2], Md. Asma[3]
[1]Assistant Professor, CSE, Bharat Institute of Engineering and Technology, Hyderabad
[2]Assistant Professor, ECE, Bharat Institute of Engineering and Technology, Hyderabad
[3]Associate Professor, Department of CSE, Nizam Institute of Engineering and Technology, Hyderabad
[1]farhana89bano@gmail.com, [2]rekhavangala@biet.ac.in, [3]asma.mtech@gmail.com

Abstract
In this paper, we consider the problem of detecting whether a compromised router is maliciously dropping its stream of packets. In particular, we are motivated with a simple yet effective attack in which a router selectively drops packets destined for a victim. Unfortunately, it is quite challenging to attribute a missing packet to a malicious action because normal network congestion can produce the same effect. Modern routers routinely drop packets when the load momentarily exceeds their buffering capacities. Previous detection protocols have tried to address this problem with a user -defined threshold too many dropped packets imply malicious intent. However, this heuristic is fundamentally unsound; choosing the threshold is, at best, an art and will either create unnecessary false positives or mask highly focused attacks. We have designed, analyzed and implemented a compromised router detection protocol that dynamically infers, based on measured traffic rates and buffer sizes, the number of congestive packet losses that will occur. Once the ambiguity from congestion is removed, subsequent packet losses can be attributed to malicious actions.

Keywords: Internet dependability, Intrusion detection and tolerance, Reliable networks, Malicious routers.

1. Introduction

The Internet is not a safe place. Unsecured hosts can expect to be compromised within minutes of connecting to the Internet and even well-protected hosts may be crippled with denial-of-service attacks. However, while such threats to host systems are widely understood, it is less well appreciated that the network infrastructure itself is subject to constant attack as well. Indeed, through combinations of social engineering and weak passwords, attackers have seized control over thousands of Internet routers. Even more troubling is Mike Lynn's controversial presentation at the 2005 Black Hat Briefings, which demonstrated how Cisco routers can be compromised via simple software vulnerabilities. Once a router has been compromised in such a fashion, an attacker may intervene on the traffic stream and manipulate it maliciously to attack others-selectively dropping, modifying, or rerouting packets. Several researchers have developed distributed protocols to detect such traffic manipulations, typically by validating that traffic transmitted by one router is received unmodified by another. However, all of these schemes-including our own-struggle in interpreting the absence of traffic. While a packet that has been modified in transit represents clear evidence of tampering, a missing packet is inherently ambiguous: it may have been explicitly blocked by a compromised router or it may have been dropped benignly due to network congestion.

In fact, modern routers routinely drop packets due to bursts in traffic that exceed their buffering capacities, and the widely used Transmission Control Protocol (TCP) is designed to cause such losses as part of its normal congestion control behavior. Thus, existing traffic validation systems must inevitably produce false positives for benign events and/or produce false negatives by failing to report real malicious packet dropping. In this paper, we develop a compromised router detection protocol that dynamically infers the precise number of congestive packet losses that will occur. Once the congestion ambiguity is removed, subsequent packet losses can be safely attributed to malicious actions. We believe our protocol is the first to automatically predict congestion in a systematic manner and that it is necessary for making any such network fault detection practical. In the remainder of this paper, we briefly survey the related background material, evaluate options for inferring congestion, and then present the assumptions, specification, and a formal description of a protocol that achieves these goals. We have evaluated our protocol in a small experimental network and demonstrate that it is capable of accurately resolving extremely small and fine-grained attacks.

2. Literature Survey

A Content Delivery Network or Content Distribution Network (CDN) is a system of computers networked together across the Internet that cooperate transparently to distribute content for the purposes of improving performance and scalability. Content types include web objects, downloadable objects (media files, software, and documents), applications, real time media streams, and other components of internet delivery (DNS, routes, and database queries). Strategically placed edge servers decrease the load on interconnects, public peers, private peers and backbones, freeing up capacity and lowering delivery costs. It uses the same principle as above. Instead of loading all traffic on a backbone or peer link, a CDN can offload these by redirecting traffic to edge servers. CDNs deliver content over TCP and UDP connections. TCP throughput over a network is

Design of Roof Top Solar Photo Voltaic System for BIET, Hyderabad, India

Dr J Bhagwan Reddy[1], D Vineeth Kumar[1], G Rakesh[1] , K Srinivasarao[1], Dr M Rajender Reddy[2]

[1]Department of EEE, Bharat Institute of Engineering and Technology, Hyderabad, India.
[2]Department of EEE, Avanthi Institute of Engineering and Technology, Hyderabad, India
E- Mail : drjbhagwanreddy9@gmail.com

ABSTRACT

This paper presents the design of grid connected solar photo-voltaic system for Bharat Institute of Engineering and Technology (BIET), Hyderabad, Telangana state, India. To design a suitable grid connected Solar PV plant, the on-site solar radiation data is needed. In the absence of solar radiation data, we have taken National Renewable Energy Laboratories (NREL), USA, RET-screen data. From this data, we can estimate the rating of the solar PV power plant. We have collected 5 years energy consumption data of the BIET. From the on-site solar radiation data and load data, suitable Solar Photo Voltaic System is proposed. Further the 5years average energy production of I-max roof top 100 kWp SPV system is 11,698 kWh / month or 3.98 kWh / kWp per day. The performance of the above system is evaluated and presented. Suitable remedial measures are suggested. Using HOMER (NREL), USA, Mat-lab and other soft-ware's methods can be used to validate the results. Taking future energy needs in to the consideration, we have designed the system capacity between 300 kWp. By using this method one can design bigger or smaller SPV systems depending upon the energy requirements.

As per the "efficient carbon" estimates 1kWh solar energy is going to reduce 0.8kg of Co_2 comparing with a Thermal power plant. From this system we are going to reduce environmental pollution, reduction of fossil fuels consumption, greenhouse gases emissions. Finally it leads to climate change mitigation.

Keywords: Solar Photovoltaic's, Grid-connection, Performance Evaluation, System design, Environmental pollution.

1. Introduction

Photovoltaic energy offers the consumers the ability to generate electricity in a clean, quiet and reliable way. Photovoltaic systems are comprised of photovoltaic cells, devices that converted light energy directly into electricity. It is anticipated that photovoltaic systems will experience an enormous increase in the decades to come. However, a successful integration of solar energy technologies into the existing energy structure depends also on a detailed knowledge of the solar resource. But to note it is essential to state the amount of literature on solar energy, the solar energy system and PV grid connected system is enormous. Grid interconnection of photovoltaic (PV) power generation system has the advantage of more effective utilization of generated power. However, the technical requirements from both the utility power system grid side and the PV system side need to be satisfied to ensure the safety of the PV installer and the reliability of the utility grid (A.S. Elhodeiby et al, 2011). For this survey we have gone through different books, journals and papers to get its keen knowledge.

2. Methodology

The BIET campus Location Latitude 17.206780^0 and Longitude 78.601060^0 from GOOGLE Maps is presented in Fig1.

To design suitable grid connected solar PV plant at BIET, the on-site solar radiation data is needed. In the absence of solar radiation data, we have taken National Renewable Energy Laboratories (NREL), USA, RET-screen data. From this data, we have estimated the rating of the solar PV power plant for BIET Campus, Hyderabad, INDIA. The rooftop area of the college is measured and presented in Table 1.

The energy consumption data of BIET from 2014 to 2018 is taken and presented in Table 2, the average of 5 years data is considered for better design.

Further we have collected near-by I-MAX Theater, 100 kWp SPV system energy production data from 2014 to 2018 is collected evaluated and presented. The 5 years monthly average energy production is estimated. From this we have designed suitable SPV

Smart Card Based E-Car Battery Charger

1.Dr.Arulprakash Andigoundar
2.Mr.Pasunoori Sriharsha.

1.Professor, 2.Assistant Professor.EEE Department,Bharat Institute of Engineering and Technology,Mangalpally,Hyderabad,Telangana.

Abstract

Now-a-days E-cars are becoming more popular and will be widely used due to the incremental conventional fuel cost, pollution and decrement in fuel resources worldwide. This E-cars provide many advantages like less air pollution, less running cost, etc. In order to charge the batteries used in E-cars, E-cars charging centers have to be established like fuel stations at which the batteries are automatically and quickly charged by accessing the smart card. The charging centers can also be established in all kinds of parking slots near Industries, shopping malls and theatres etc.

Introduction

This system contains a microcontroller for controlling applications, the sources of charging may be from solar or traditional power resources and the backup is provided from batteries. The proposed idea can also be implemented with quick charging technology. The user has to plug in to the charging slot at E-car charging stations in order to charge their E-cars. The E-car batteries can be charged by accessing the card as desired.

II.LITERATURE SURVEY

Types of charging stations and types of electric cars and their battery capacity

Electric vehicle (EV) charging stations are an integral part of owing an EV. All electric cars don't have a gas tank – rather than filling your car up with gallons of gas, you simply plug your car into its charging station to fuel up. The average EV driver does 80 percent of their car charging at home. Here's your guide to the type of electric car charging stations, and how much you can expect to pay to charge your EV.
Types of electric car charging stations:

EV chargers typically fall under one of three main categories:

- Level 1 charging stations
- Level 2 charging stations
- DC Fast chargers or Level 3 charging stations

Level 1 EV charging stations:
Level 1 chargers use a 120V AC plug and can be plugged into a standard outlet. These chargers typically deliver two or five miles of range per hour of full charging(takes 7-8 hours for full charging) and are most often used at home.
Level 2 EV charging stations:

Level 2 chargers use a 230V AC plug and converted to DC into a standard outlet. These can be installed at parking slots at theatres, shopping malls, colleges, public parking areas, etc. These are medium level(takes 2-5 hours) charging stations.
Level 3 charging stations:

These uses DC fast charging unit which takes 0-30 minutes to 0-80% of charging.

Ratings of different E-Cars:

s.no	Type of E-Car	Company	Battery capacity
1.	Plug-in Hybrid	Audi A3 e-tron	8.8KWh
2.	Plug-in Hybrid	BMW i8	7KWh
3.	Plug-in Hybrid	Toyota Prius III	4.4KWh
4.	Plug-in Hybrid	Koenigsegg Regera	4.5KWh
5.	Non-Plug-in Hybrid	Ford Fussion II	1.4KWh
6.	Non-Plug-in Hybrid	Hyundai Ioniq	1.56KWh
7.	Non-Plug-in Hybrid	Toyota Prius II	1.3KWh

RBFN Based MPPT Control With Quadratic Boost Converter For PV Applications

K. Sai Kumar[1*], P. Vamshi[1] N. Pruthvider Reddy[1] D. Shankar Reddy[1], Ramji Tiwari[2]

[1] Student, [2] Assistant Professor,

BIET,Hyderabad.

Abstract: *To design and analyze a high gain converter namely Quadratic Boost Converter which acts as an interface with the solar Photovoltaic power generation. The design and testing of the Quadratic Boost Converter is done using MATLAB and SIMULINK. The performance parameters such as voltage gain, output voltage ripple and stress across the switches are computed. The losses in the converter are calculated and listed. Here we had used RBFN technology in order to extract maximum power from the solar pv panels and it is demonstrated using MATLAB/SIMULINK.*

INTRODUCTION

Among the various categories of power electronics, DC-DC converters form one major category. DC-DC converters are basically nonlinear systems due to the switching action. They are used for converting one level of electrical voltage into another level. Many new applications would not be feasible without DC-DC converters. [2] These converters are used in a wide variety of applications like power supplies, DC motor drives, and switched mode power supplies in personal computers, automobile electronics, aircraft, electric vehicles, industrial applications and communication equipment's. Boost converter, Buck converter and Buck-Boost converter form the basic DC-DC converter configurations. Boost converters are widely applied for integrating renewable energy resources to the grid. [10]

There are two categories of control in DC-DC Converters namely, Voltage Mode (VM) and Current Mode (CM) control. Voltage Mode control involves sensing of output voltage which is compared with a reference to generate voltage error signal. [3] The voltage error signal is regulated by means of feedback loop systems. Its output is compared with a saw tooth waveform which generates a Pulse Width Modulated (PWM) signal that is fed back to the converter. In Current Mode control, both the inductor current and output voltage are sensed. Due to the non-linear and time varying nature of DC-DC converters, the designer chooses to control the output voltage by directly controlling the inductor current.

[4] A single PV cell produces a low output voltage and therefore a suitable interface

DECOUPLED ACTIVE AND REACTIVE POWER CONTROL OF GRID CONNECTED DFIG

T.Muthu Chary[1]
N.Naga shekara[2] Reddy
1. PG student,2 Assistant Professor.
EEE Department,JNTU Hyderabad.

Abstract :

The main objective of this work is to control the active and reactive power of a grid connected DFIG. This can be accomplished by injecting or by extracting the current from the rotor terminals of DFIG. The power can be controlled by implementing back to back IGBT converter. The controlling scheme is explained and the modeling of DFIG is done in MATLAB – SIMULINK environment.

INTRODUCTION : In recent years the control of high performance induction motor drives for general industry applications and area of production has received a lot of research interests. Induction machine modeling has continuously attracted the attentions of researchers not only because Doubly Fed Induction Machines are such machines are made and used in larger numbers but also due to the various modes of operation is possible. The doubly fed wound rotor induction machine is an attractive
alternative to cage rotor induction machines and synchronous machines in high power application, where the speed range is limited and can be operated in all the four modes. The stator terminals are directly connected to three phase utility supply with normal line voltage and frequency while the rotor terminals are connected to back to back IGBT converters with a fixed capacitive DC link. **A** transformer is required between the line side converter and the utility to match the voltage ratio between the stator and rotor in the machine. The control can be achieved by implementing PI controllers.

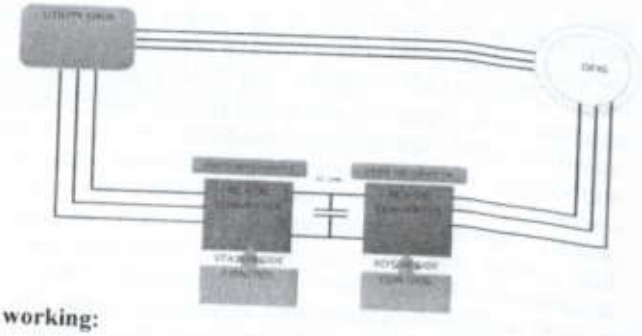
LITERATURE SURVEY

Induction machines are widely used in all the industries because of the operating and performance characteristics, it can be operated in all the four modes, so controlling strategy of these machines plays a prominent role. The direct quadrature transformation is a mathematical transformation used to simplify the analysis of three phase circuit.

In the case of balanced three phase circuits, application of d-q transformation reduces the three AC quantities to 2 quantities.

Simplified calculations can then be carried out on these imaginary quantities before performing the inverse transformation to recover the actual three phase ac results. Matlab/Simulink is a systems simulator and unable to direct simulate electrical circuits. Therefore for simulation of electric circuits power system block set is used which incorporates libraries of electrical blocks and analysis tools which are used to convert electrical circuits into Simulink diagrams. The electrical blocks or electrical models such as electrical machines, current and voltage sources, different electric elements, power electronics switches, conductors and sensors for measurement purpose. A Simulink scope can be used to display the simulation results or these results can be send to workspace during the simulation.

Block Diagram:



working:

For a doubly-fed wound rotor induction machine, it is possible to accomplish independent control of active and reactive powers through current injection in the rotor circuit in a desired manner. This can be carried out via the appropriate switching control of rotor side converters. With an IGBT converter in the rotor circuit, rotor terminals can be fed with three-phase currents of variable amplitude, frequency and phase. This enables reversible flow of active power in the rotor. Also, the dc link capacitor, being a source of reactive power, can assist stator side by sharing partially or fully the magnetizing current requirement of the machine.

Due to the bi-directional control capability of active and reactive powers, the operating range in the torque-speed plane spreads out on either side of synchronous speed implying both sub-synchronous and super-synchronous mode of operation. Moreover, the machine can operate in both

RELIABILITY ASSESMENT OF GRID CONNECTED SOLAR PHOTO VOLTAIC SYSTEM

Dr. J. Bhagwan Reddy*, A. Nagraj**, B.Sai vani**, ***A.Sai Supradeep*****, ***Narender Reddy******

** Professor, EEE,*
*** Associate Prof, EEE,*
** **UG Students EEE,*
***** Associate Prof, EEE.*

Bharat Institute of Engineering And Technology.
Email:
drjbhagwanreddy9@gmail.com

ABSTRACT:

This paper presents a case study of 1 MW, Jurala Solar photo-voltaic (SPV) plant, at Mahabub Nagar district, Telangana state, India. The proposed work is useful for the probabilistic reliability evaluation of SPV system for gaining a better insight in component sizes and locations before they built optimally. The 1 MW SPV system 2013, 2014 & 2015 data was collected and presented. The measures of reliability evaluation LOLE and LOEE are probabilistic which indicates the risk at which the generation capacity fails to meet the load demand and its evaluation involves specific parameters such as the plant capacity and outage rate of each generating unit. Therefore, in order to have optimum generation planning and investments efficiently, it is necessary to perform a study on the practical Reserve Margin level with respect to the current LOLE requirement without endangering the overall power system reliability. LOEE is used to determine the total expected energy losses that load demand does not provide from the generation system. From the frequency and duration method, the LOLE at 0.8 peak load is found as 4.919 days/year. The LOEE for the same peak load is calculated as 0.0071. Based on these two values the reliability of the system can be assessed. Using the above values we can arrive at the generating units' additions to meet the optimum load demand.

INTRODUCTION:

Today's world needs uninterrupted quality power supply with high reliability.Electrical energy that is derived from fossil fuels produce high pollution one side and on other side electrical energy demand is continuously increasing. To tackle this twin problem alternative resource such as solar, wind and biomass energy sources are to be preferred. In order to reduce the utilization of fossil fuel resources like coal, diesel, natural gas etc. It is very essential to see towards the above mentioned alternative sources.

Renewable energy is reliable and plentiful and will potentially be very cheap once technology and infrastructure improve. it includes solar, wind, geothermal etc. Nonrenewable energy, such ass coal and and they will become more expensive as supplies dwindle and demand increases. Renewable energy produces only minute level of carbon emissions.

India has very good conditions for the development of solar photovoltaic power systems, due mainly to the high mean daily radiation and the 300 number of sunny days in most parts of the country. One of the most important things is that solar energy is clean, quiet and visually unobtrusive .In these research work to study renewable energy system which uses PV modules to convert sunlight into source of electricity that can be used for many of applications such as industry, agriculture, offices etc.

Techno Economic Analysis of Hybrid Renewable Electrification System in Different Climatic Zones

Murugaperumal Krishnamoorthy, P. Ajay D. Vimal Raj, S. Suresh and Karuppiah Natarajan

Abstract This paper deals with the investigation on renewable energy potential areas in the union of Puducherry for the development of the standalone Hybrid (PV/Wind) electrification system. Optimization cum sensitivity results and ranking process are the basic evaluation parameters for this investigation. The various climatic zones identified (Puducherry, Karaikal, Mahe and Yanam) are located in the union territory of Puducherry region, India. A typical consumer demand profile was created for the selected zones on the basis of the database relating to the local distribution agency. The renewable resource availability ranges were obtained from NASA's surface mythology database. HOMER Pro software has been used for estimation of the different feasible hybrid configurations. Region-wise winning configurations were treated into sensitivity analysis through different rates of diesel price variables. The investigations indicate Yanam Zone as a highly potential area for implementing the standalone hybrid electrification system among the other climatic zones of Puducherry union. The sensitivity analysis proves renewable energy rich area system holding the top rank, in terms of the best Techno-Economic Eco friendly electrification system. The system maintains the renewable fraction as 0.99 with a high quantity of power production and least Cost of Energy with reduced Net Present Cost (reduced into half value over normal system) and low green gas emission.

Keywords Standalone hybrid renewable electrification system (HRES) · Techno-economic analysis · Sensitivity analysis · RE potential area analysis · Ranking process

M. Krishnamoorthy (✉) · P. A. D. V. Raj
Department of EEE, Pondicherry Engineering College, Puducherry, India
e-mail: murugaee@gmail.com

S. Suresh
Department of EEE, Bharath Institute of Engineering and Technology, Hyderabad, India

K. Natarajan
Department of EEE, Vardhaman College of Engineering, Hyderabad, India

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The soft minds of children can easily be shaped and subjected to twist and bends towards criminal acts. In India the criminal offence by children or Juvenile delinquency by youth is spreading. The main risk factors tendering for the juvenile criminal offences are family & parents, financial problems, education, peer groups etc. In this paper, we use association rule mining technique of data mining to make analyses on family background risk factor in juvenile delinquency with help of Indian juvenile crime dataset. The experiment results are investigated for assessing the relation between family background and juvenile delinquency in
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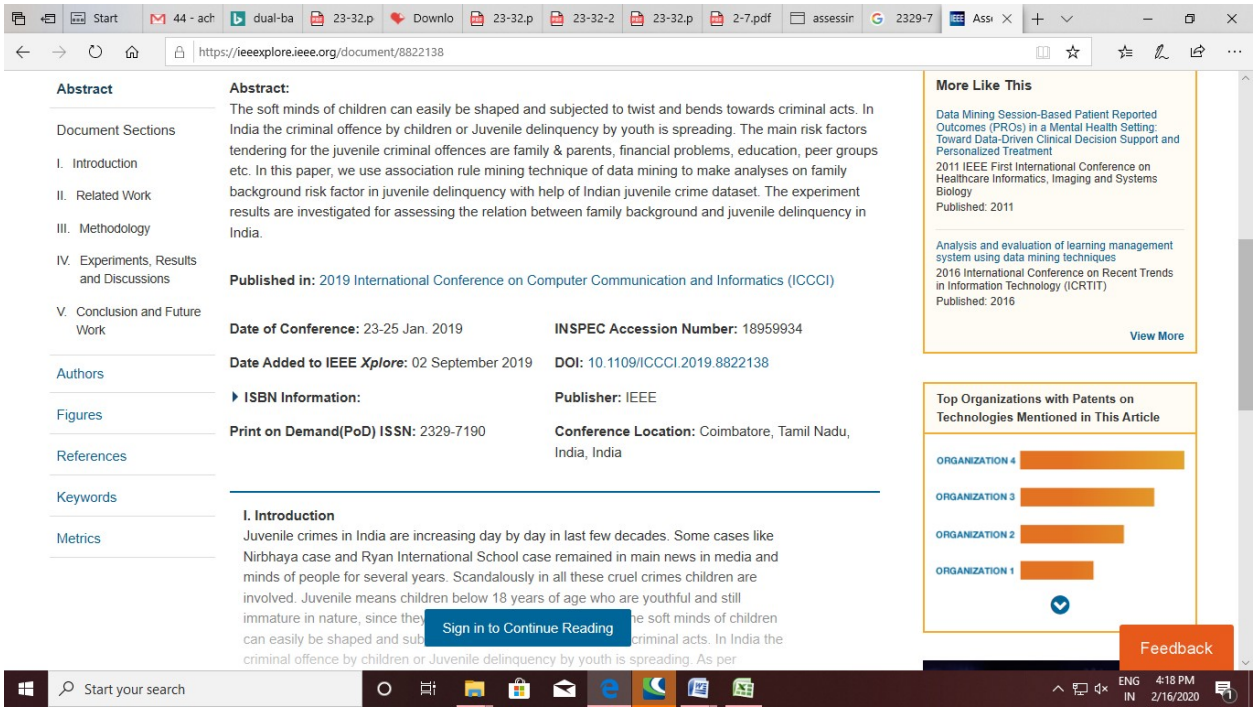
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IV. Experiments, Results and Discussions
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I. Introduction
Juvenile crimes in India are increasing day by day in last few decades. Some cases like Nirbhaya case and Ryan International School case remained in main news in media and minds of people for several years. Scandalously in all these cruel crimes children are involved. Juvenile means children below 18 years of age who are youthful and still immature in nature, since they
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