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MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING

(An ISO 9001: 2015 Certified Institution)

(Affiliated to Visvesvaraya Technological University Belagavi)

Badaga Mijar, Moodabidri-574225, Karnataka

3.3.2 Number of Papers Published per Teacher in the Journals notified on UGC website during the last Five Years

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3.3.2 Number of papers published per Teacher in the Journals notified on UGC website during the Academic Year 2019-20

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
1	Increasing the Silicon Solar Cell Efficiency with Transition Metal Oxide Nano-Thin Films as Anti-Reflection Coatings	**Raghavendra Sagar** and Asha Rao	Physics	Materials Research Express	2053-1591	60
2	Influence of A-site Substitution on Dielectric and Impedance Behavior of Mn3O4 Spinels	**Nayana Acharya and Raghavendra Sagar**	Physics	Ferroelectric LettersSection	0731-5171	61
3	The Significant Role of Molecular Dipole Arrangements on the Second and Third-order Nonlinear Optical Properties of a Furan Based Chalcone	S. Satheeshchandr, **Anthoni Praveen Menezes**, H.P. Sarveshwara, A. Jayarama	Physics	Physica B: Physics of Condensed Matter	0921-4526	62
4	Comparative Study on Structure, Dielectric and Electrical Properties of Cobalt- and Zinc-Substituted Mn3O4 Spinels	**Nayana Acharya and Raghavendra Sagar**	Physics	Applied Physics A -Materials Science & Processing	0947-8396	63
5	Investigation on Structural, Optical and Electrical Properties of Nd Doped Titania Films and Application of Optical Model	Akshayakumar Kompa , **Chaitra U** , Dhananjaya Kekuda , Mohan Rao K	Physics	Materials Science in Semiconductor Processing	1369-8001	64

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6	Hybrid Core-Shell Nanostructure made of Chitosan Incorporated Polypyrrole Nanotubes Decorated with NiO for All-solid-state Symmetric Super capacitor Application	**H Vijeth,** SP Ashokkumar, L Yesappa, M Vandana,H Devendrappa	Physics	Electrochimica Acta	0013-4686	65
7	Growth of 3-Dimentional MoS2-PANI Nano fiber for High Electrochemical Performance	H Ganesha, S Veeresh, YS Nagaraju, M Vandana, SP Ashokkumar, **H Vijeth**, H Devendrappa	Physics	Materials Research Express	2053-1591	66
8	Synthesis, Characterization of Some 6/8 Substituted 2-Chloro-3- Formyl Quinoline Incorporated,3-Thiazoles/1,3-Benzothiazoles and Their Biological Studies	**Vineetha Telma D'Souza,** Janardhana Nayak, Desmond Edward D' Mello, Dayananda P	Chemistry	International Journal of Advanced Science and Technology	2005-4238	67
9	Corrosion Inhibition of Zinc in 0.1 M Hydrochloric Acid Medium with Clotrimazole: Experimental, Theoretical and Quantum Studies	**A.M. Guruprasad,** H.P. Sachin, G.A. Swetha, B.M. Prasanna	Chemistry	Surfaces and Interfaces	2468-0230	68
10	Corrosion Inhibitive Capacity of Vanillin-Based Schiff Base for Steel in 1 M HCl	G Bhanuprakash, B M Prasanna Santhosh **A.M. Guruprasad,** R S Malladi	Chemistry	Journal of Failure Analysis and Prevention	1547-7029	69

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11	Comparative Study of Removal Efficiency of Cationic Dyes by Chromolaenaodorata Weed Powder	**Ashwini A Kamath,** Nandini R, Vishweshwara M	Chemistry	International Journal ofAdvanced Science and Technology	2005-4238	70
12	Influence of Hall on the motion of a Newtonian Fluid through a Porous medium in an inclined Planar Channel with Peristalsis	P Gangavathi, **S Jyothi**, M V Subba Reddy, P Yogeswara Reddy	Mathematics	Journal of Adv. Research in Dynamicaland Control Systems	1943-023X	71
13	Effect of Chemical Reaction of First Order and Micro rotation on Fluid Flow in a Vertical Channel	**Y. Ramarao, S Jyothi**, Shreedevi Kalyan	Mathematics	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	72
14	Computation of stability Derivative for a wing for specific heat ratio=1.66 for Hypersonic Flow	**Shamitha, Asha Crasta** S A Khan **, P Vasavi**	Mathematics	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	73
15	Micro-Structural Evolution Analysis and Assessment of Tribological Behavior of Nickel Alloy Reinforced with SiO2 and Al2O3 Hybrid Metal Matrix Composites	Vidyasagar Shetty, Vijay Kumar , **G.Purushothm.**	Aeronautical Engineering	International Journal ofMechanical and Production EngineeringResearch & Developments	I 2249-6890	74

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16	Effect of SiO2 and Al2O3 on Mechanical Properties of ASTM A 494 M Grade Nickel Alloy Hybrid Metal Matrix Composites	Vidyasagar Shetty , Vijaya Kumar, **G.Purushotham**	Aeronautical Engineering	Journal of Mechanical Engineering Research & Developments	1024-1752	75
17	Study Of Free Vibration Characteristics Of Hybrid Polymer	**Ajith Kumar,** Vishwaretha K R, Shivaji LamaniI, KiranKumar MV, Vinod	Aeronautical Engineering	International Journal of Mechanical and Production Engineering Research & Developments	2249-6890	76
18	Utilization of Agriculture Waste Embedded Composite Wall Panels as Alternative Building Materials: A Concept of Lightweight Structures	B S Keerthi Gowda, **G L Easwara Prasad**, Velumurugan Ramachandran	Civil Engineering	Journal of Structural Technology	2581-950X	77
19	Experimental Studies on Structural Characteristics of Solid Concrete Block Masonry with Partial Replacement of Sand by Quarry Dust in Mortar	**Ganesha Mogaveera**, Vidyashree M**, Umesh S S,** Sherman Jain	Civil Engineering	International Journal of Advanced Science and Technology	2005-4238	78
20	Study On Strength of Geopolymer Concrete	Navyashree B R, **Ganesh Mogaveera**	Civil Engineering	International Journal of Advanced Science and Technology	2005-4238	79

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21	Removal Of Heavy Metals From Leachate Using Natural Detritus Shells	**Jayaprakash M C,** Trupti, Niveditha S P, D Venkat Reddy	Civil Engineering	International Journal ofAdvanced Science and Technology	2005-4238	80
22	Reduction Of Floods Caused By Rain Using Infiltration Wells and Rain Reservoirs In Padang City	Bambang Istijono, **Jayaprakash M C**, DVenkat Reddy	Civil Engineering	International Journal ofAdvanced Science and Technology	2005-4238	81
23	Performance Of Concrete By Partially Replacing Fine Aggregate with Gbs And Cement With Fly Ash	**Sagar S**, Kalappa U.P, Jyothipriya G.S, Umar Mohd Nousheen	Civil Engineering	International Journal ofAdvanced Science and Technology	2005-4238	82
24	Analytical Studies on Behaviour of High Raised Frame Structures Subjected to Wind Loads	**Darshan M. M, Suraj M. Shet**	Civil Engineering	International Journal of Advanced Science andTechnology	2005-4238	83
25	Development of Rainfall Intensity-Duration-Frequency (IDF) Curve for Some Parts of Coastal Region of Karnataka	**Sushmitha G S, VinodG, Vinutha S**	Civil Engineering	International Journal ofAdvanced Science and Technology	2005-4238	84

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26	A Study on the Impact of Climatic Changes in the Coastal Regions of Karnataka	**Vinod G, Sushmitha GS**	Civil Engineering	International Journal ofAdvanced Science and Technology	2005-4238	85
27	Taxonomy of DDoS Attacks and Performance of DDoS Attack DetectionApproaches	**Ravinarayana B, Nagesh H. R**	Computer Science & Engineering	Solid State Technology	0038-111X	86
28	An Approach to Download Data from the Cloud Efficiently Through Multiple Parallel Links by Applying Divide and Conquer Technique	**D.R.Annappa Swamy,** M.R.Rashmi , **T. Shreekumar**	Computer Science & Engineering	Solid State Technology	0038-111X	87
29	An Active Appearance Model based Face Recognition from Surveillance Video	**T.Shreekuma**, K. Karunakara	Computer Science & Engineering	Test Engineering andManagement	0193-4120	88
30	Application of Fisher Yates Data Shuffling and RSA Encryption in Transform DomainVideo Steganography	**Laxmi Gulappagol,** KB Shivakumar	Electronics & Communication Engineering	Bioscience Biotechnolo gy Research Communica tion	0974-6455	89

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31	Application of Robust Engineering Approach for DC Motor Controller Design	**Vinayambika S Bhat,** Shreeranga Bhat Gijo E. V	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	90
32	Review on Bio-Signal Processing Software Packages	**Ramalingam H M,** Nagesh H R, Pallikonda Rajashekharan M	Electronics & Communication Engineering	International Journal ofAdvance Research, Ideas and Innovations in Technology	2454-132X	91
33	Image Processing based Early Detection of Pest in Agriculture to Increase the Crop Yield	**Srikrishna Shastri C,** Arpitha, Denold Jason	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	92
34	Tactile Braillie Display Using Relay Switch	**Ranjith H D, RishmaMary George,** Anjani	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	93
35	Adaptive Wireless Charging System for Electric vehicles	**Sathisha,** Ninadha Venugopal, **Padma Prasada**	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	94

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36	A Novel Architecture of 32 bit Modulo 2n-1 Adder	**Uday J,** Rajithkumar BK	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	95
37	Solving the Data Security Problems for Medical Image Using Dog-Crow Optimization Algorithm	G.Jayahari Prabhu, B.Perumal, **P. SanjeeviKumar**	Electronics & Communication Engineering	International Journal ofAdvanced Science and Technology	2005-4238	96
38	Flipped Classroom : An Effective ICT Tool for Facilitators and Remote Location Learners	A. Padmaja, **Swapna Srinivasan**, Sheetal Bhongle	Electronics & Communication Engineering	Journal of Engineering Education Transformations	978-1786357441	97
39	Production Enhancement and Sustainment through Lean Six Sigma Strategy	Shreeranga Bhat, Gijo E. V, **Vinayambika S Bhat**	Electronics & Communication Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	98
40	Analysis of Buck Converter: A Comparative Study Based on Fuzzy Logic and Internal Model Control Techniques	Rumana Ali**,** **Vinayambika S Bhat**	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	99-100

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41	Survivability Techniques Implementation by using Simulation Methods	Chandra Singh, **Nischitha N** Sai Venkatramana Prasada G S, Harish MB, Lanlyn Samuel Dsouza, Shashank A G	Electronics & Communication Engineering	Test Engineering andManagement	0193-4120	101
42	Experimental Study of High Performance Computing in Three Tier Architecture for E-Health Care Application	**Ramalingam H M,** Nagesh H R, Pallikonda Rajasekaran M	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	102
43	Email Client Automation with RPA	Akshay P N, Nisarga Kalagi, Deeksha Shetty, **Ramalingam H M**	Electronics & Communication Engineering	Electronics & Communicati on Engineering	2394-5125	103
44	Thin Film Transistors For Display Applications: A Review	**Ganesh V N,** Shantharama Rai C	Electronics & Communication Engineering	International Journal of Advanced Science and Technology	2005-4238	104
45	Coal Mine safety Monitoring Device	**Rishma Mary George,** Mahita Bangera, Abhishek A., Zaid Mohammed.	Electronics & Communication Engineering	Journal of criticalReviews	2394-5125	105

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46	The Growth of Semiconductor Thin Layer on Silicon Substrate Using Sol-Gel Method	**Ganesh V N ,** Shantharama Rai C, Jayarama A	Electronics & Communication Engineering	Solid State Technology	0038-111X	106
47	Real time Object Detection for Autonomous Vehicles	**Ganesh V N,** K Aishwarya Shetty, Melrine Aquila Saldanha, Muzna Nazhath, Namrata Arun	Electronics & Communication Engineering	International Journal of Engineering & Technology	2395-0072	107
48	An Efficient Kannada Language Based Agricultural Helpline System for Agriculturist Using IoT	**Anjani Hegde, Rishma Mary George, Ranjith H D ,Nischitha L, Bhargavi K Rao**	Electronics & Communication Engineering	International Journal ofGrid and Distributed Computing	2005-4262	108
49	Review on Power Reduction Techniques in Low Power VLSI Design	**Taranath H B,** VelenRuben Aranha, Rajesh Kamath	Electronics & Communication Engineering	International Journal of Advanced Science and Technology,	2005-4238	109
50	Identifying the stabilizing regions of PI Controller based on frequency specifications for a lab scale distillation column	R. Janani, **Vinayambika S Bhat**, Indiran Thirunavukkarasu, V I George	Electronics & Communication Engineering	International Journal ofDigital Signals an Smart Systems	2398-0311	110

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51	Robust design of Proportional integral controllers: a Taguchi-Grey Approach	**Vinayambika S Bhat**, Shreeranga Bhat and Gijo E. V	Electronics & Communication Engineering	International Journal of Modelling, Identification and Control	1746-6172	111
52	Significance of Injection Pressure on Overall Performance of Common Rail Direct Injection Engine using Dairy Scum Oil Methyl Esters	M.Nandeesh, **C.R. Rajashekar,** R. Harish Kumar, N.R. Banapurmath	Mechanical Engineering	International Journal of Ambient Energy	1725-785	112
53	Characterization of Aluminium Iron Intermetallic Produced by Stir Casting Route	**Mohan Kumar, Neelakantha V Londe, Harold D Souza**	Mechanical Engineering	International Journal of Vehicle Structures & Systems	0975-3060	113
54	Optimization of Wire EDM Process Parameters for Medical Grade Nickel Titanium Shape Memory Alloy	Vinayak N Kulkarni, V N Gaitonde, K S Nalavade, MrityunjayDoddamani, **Gajanan M Naik**	Mechanical Engineering	Strojnícky časopis – Journal of Mechanical Engineering	0039-2472	114
55	Dry Sliding Wear Characteristics of Multi-Walled Carbon Nanotubes Reinforced Al-Si (LM6) Alloy Nano Composites Produced by Powder Metallurgy Technique	**Shivaramu H T, Vignesh Nayak U ,** Umashankar K S	Mechanical Engineering	Materials Research Express	2053-1591	115

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56	Significance of the Type of Reinforcement on the Physico Mechanical Behavior of Short Glass Fiber and Short Carbon Fiber –Reinforced Polypropylene Composites	**Sridhar D R,** Varadarajan Yellampalli Srinivasachar	Mechanical Engineering	Engineering Reports-Wiley online library	2577-8196	116
57	Study on fracture Toughness of Layered structure for Fail Safe Design.	**Mohan Kumra, Neelakantha V Londe**	Mechanical Engineering	Solid Sate Technology	0038-111X	117
58	Enhancement Of Mechanical Strength By Solid Reinforced Composite Tube – A Safe-Fail Design	**Mohan Kumar, Neelakantha V Londe, Lokesha M,** Harold J, Sohan Naik	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890;	118
59	Fracture Toughness Measurement Of Aluminium And Steel inserted Aluminium Using Numerical Method	**Mohan Kumra, Neelakantha V Londhe**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	1757-899X	119
60	Fracture Characterization Of Sisal / Banana Hybrid Composite Reinforced Polyester Composites	Premkumar Naik, **Neelakantha V Londhe**, Laxman Naik, Sreenivas S, Girish H N	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	120

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62	The Effect Of Machinability Parameters On AISI 4340 (En-24) Steel Using Taguchi Technique	**Gautam S Shetty**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	122
63	Consequence Of Injection Pressure And Number Of Nozzle Holes On The Overall Performance Of Diesel Engine Operated On Dairy Scum Methyl Esters Blend B20	M. Nandeesh**, C.R. Rajashekar** & R. Harish Kumar	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	123
64	Experimental Investigation On The Mechanical Properties Of Hybrid Composite Leaf Spring	**Aveen K P, Vikrant Kannath, NeelakanthaV Londe, Gagan G Amin, Imaad Salim Shaikh**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	124
65	Impact Of Nano Material Added Biodiesel On Combustion, Performance & Emission Of Ci Engine - A Review	K S. Sudeep Kumar**, C R. Rajashekhar,** H V. Ramyarani	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	125

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67	Mechanical Characterisation Of Seashell, Aluminium And Fly Ash Filler Addition In Glass Fibre Reinforced Polymer (Gfrp)	**Yajnesha P Shettigar, Aveen K P, Ruben Obed D'souza**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	127
68	Grey Based Taguchi Method To Optimize Mechanical Properties Of Short Glass Fiber And Short Carbon Fiber Reinforced Polypropylene Composites	**Sridhar D R,**Varadarajan Y S	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	128
69	Two Plane Mass Balancing Of Rotor By Using Vibration Response Of The Bearings	**Madhusudhan B, Swaroop, Anudeep**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	129
70	Corrosion Inhibition Study On Aged 18ni 250 Grade Maraging Steel In Phosphoric Acid And Nitric Acid Solution Using 1, 2, 3 Benzotriazole	**Purandara Naik,** Jagannath Nayak	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	130

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72	Fault Detection in Bearings using Advanced Signal Processing Technique	**Kiran Kumar MV, Sujesh Kumar M Lokesha,** UmashankarK S, **Ajith**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research & Developments	2249-6890	132
73	Comparative Study of Mechanical Properties of Titanium Alloy Fabricated By DMLS with Casted Titanium Alloy and Natural Teeth.	S M. Shahabaz, Nagaraja Shetty, **S. Divakara Shetty** Nanjangud Subbarao Mohan	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249-8001	133
74	Trajectory Tracking of a 3-DOF Helicopter by LQR Based PID Controller	**K. Praveen Shenoy, Ashwini T. P**	Mechatronics Engineering	International Journal of Advanced Science and Technology	2207-6360	134
75	Random Forest Algorithm Based Strain Analysis on Composite Materials using Digital Image Processing	**Ashwini T. P,** Balachandra Achar H V, **K. Praveen Shenoy**	Mechatronics Engineering	International Journal of Advanced Science and Technology	2207-6360	135

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76	Review on the Influence of Fused Deposition Modelling and Injection Moulding Techniques on Enhancement of Mechanical Properties of Abs Material.	Suraj Louis D'cunha, Nagaraja Shetty, **Divakara Shetty S**	Mechatronics Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249-8001	136
77	A Review on Polymer Processing Technology of Thermoplastic Materials.	N. Hariharanath, Nagaraja Shetty, **Divakara Shetty S**	Mechatronics Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249-8001	137
78	Surface Roughness Analysis in the Drilling of Carbon Fiber/Epoxy Composite Laminates using Hybrid Taguchi-Response Experimental Design.	S.M. Shahabaz, Nagaraja Shetty, **S Divakara Shetty,** S.S. Sharma	Mechatronics Engineering	Materials Research Express	2158-5849	138
79	Biogas From Cattledung As A Source Of Sustainable Energy : A Feasibility Study	**K Abhaya Kumar,** Prakash Pinto, Iqbal Thonse Hawaldar, **B.RPradeep Kumar**	Master of Business Administration	International Journal Of Energy Economics & Policy	2146-4553	139

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1	Effect of Gadolinium on the Dielectric and Pyroelectric Behavior of Ba(Zr0.52Ti0.48)O3 Ceramics	**Raghavendra Sagar,** R.L, Raibagkar	Physics	Ferroelectric LettersSection	0731-5171	140
2	Microstructure and Transport Properties of Multiwall Carbon Nanotubes Reinforced Barium Zirconium Titanate Ceramics	**Raghavendra Sagar** R L Raibagkar	Physics	Bulletin of MaterialsScience	0250-4707	141
3	Surface Modification of Silicon Solar Cell using TiO2 and Ta2O5: Fabrication and Characterization	**Raghavendra Sagar** Asha Rao	Physics	Applied Physics A - Materials Science & Processing	0947-8396	142
4	Structural and Electrical Studies of Nano crystalline Mn3O4	**Raghavendra Sagar**	Physics	Ferroelectric LettersSection	0731-5171	143
5	Synthesis and Antimicrobial Studies of (E)-N-((2-Chloro-6-SubstitutedQuinolin-3-yl)Methylene)-4- (Substituted Phenyl)-6-Phenyl-2H-Thiazene-2-Amines	Janardhana Nayak, P. Dayananda, **Vineetha Telma D'Souza**	Chemistry	Chemical Data Collections	2405-8300	144

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6	Adsorption and Inhibitive Properties of Seroquel Drug for the Corrosion of Zinc in 0.1 M Hydrochloric Acid Solution	**A.M. Guruprasad,** H. P. Sachin, G. A. Swetha, B. M. Prasanna	Chemistry	International Journal of Industrial Chemistry	2228-5970	145
7	Rizatriptan Benzoate as Corrosion Inhibitor for Mild Steel in Acidic Corrosive Medium: Experimental and Theoretical Analysis	G. A. Swetha, H. P. Sachin, **A.M. Guruprasad,** B. M. Prasanna	Chemistry	Journal of Failure Analysis and Prevention	1547-7029	146
8	Effect of Sweep Angle and a Half Sine Wave on Roll Damping Derivative of a Delta Wing	Renita Sharon Monis, Aysha Shabana, **AshaCrast**a, S.A. Khan	Mathematics	International Journal of Recent Technology and Engineering	2277-3878	147
9	Estimation of Damping Derivatives for Delta Wings in Hypersonic Flow for Straight Leading Edge	Renita Sharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	148
10	Damping Derivative Evaluation in Pitch for an Ogive at High Mach Numbers	Renita Sharon Monis, Aysha Shabana, **AshaCrast**a, S.A. Khan	Mathematics	International Journal of Innovative Technology and exploring Engineering	2278-3075	149

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11	An Effect of Sweep Angle on Roll Damping Derivative for a Delta Wing with Curved Leading Edges in the Unsteady Flow	Renita Sharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	150
12	Estimation of Stiffness Derivative of an Ogive for Specific Heat Ratio 1.66	Aysha Shabana, RenitaSharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	Test Engineering and Management	0193-4120	151
13	Analysis of Damping Derivatives for Delta Wings in Hypersonic Flow for Curved Leading Edges with Full Sine Wave	Renita Sharon Monis, **Asha Crasta,** Mohammed Faheen, S.A. Khan	Mathematics	International Journal of Engineering and Advanced Technology	2249-8958	152
14	Study of Mechanical Behavior for Tamarind Shell Powder and Coconut Coir Fiber Epoxy Composite for Aerospace Application	**G. Purushotham, Yathin K.L**	Aeronautical Engineering	International Journal of Trend in Scientific Research and Development (IJTSRD), International Open Access Journal, Volume 3, Pg 941-949	2456-6470	153
15	Improvement of Structural Robustness Against Progressive Collapse of the Structure using In-Fill Walls	B S Keerthi Gowda, V Lokesh; **G L Easwara Prasad**	Civil Engineering	Journal of Structural Technology	2581-950X	154

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16	Studies on the Structural Characteristics of Laterite Blocks and Masonry in puttur area of Karnataka	**Ganesha Mogaveera,** G Sarangapani	Civil Engineering	Journal of Geotechnics and Engineering Structures	2454-909	155
17	Research on the Strength Parameters of Poly Propylene Fiber Reinforced Concrete and Steel Fiber Reinforced Concrete	**Ganesha Mogaveera, Umesh S S,** AnandVR	Civil Engineering	International Journal of Recent Technology and Engineering	2277-3878	156
18	Assessment of Road Safety Audit of NH-69, Karnataka State, India	**Jayaprakash M C**, Shreyas K S, Vikram MC, Manasa Nair	Civil Engineering	International Journal of Innovative Technology and Exploring Engineering	2278-3075	157
19	Experimental Investigation on Strength Characteristics of Lead Slag in Concrete	**Akshaya Krishna N,** Chethan Kumar	Civil Engineering	Journal of Emerging Technologies and Innovative Research	2349-5162	158
20	Physico-Chemical Study on Extent of Water Quality Deterioration in the Lakes of Mangaluru City	**Shashikumar**,Narendra Kumar,Savitha Yadahalli, PrajwalS.S, Hemanarasimhanag D N	Civil Engineering	Journal of Emerging Technologies and Innovative Research	2349-5162	159

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21	Identifying the Faces from Poor Quality Images/Video	**T. Shreekumar,** K. Karunakara	Computer Science & Engineering	International Journal of Innovative Technology and Exploring Engineering	2278-3075	160
22	Face Pose and Illumination Normalization for Unconstraint Face Recognition from Direct Interview Videos	**T. Shreekumar,** K. Karunakara	Computer Science & Engineering	International Journal of Recent Technology and Engineering	2277-3878	161
23	Multicast Communication using Different Group Key Managements	Ranjan Kumar H S, **Ganesh Aithal**, Surendra Shetty	Computer Science & Engineering	International Journal of Recent Technology and Engineering (IJRTE)	2277-3878	162
24	Generation of Pseudo Random Number Sequence from Discrete Oscillating Samples of Equally Spared Objects and Application for Stream Cipher System	Sudeep K B, **GaneshAithal**	Computer Science & Engineering	Concurrency computing practice and experiments WILEY publication	1532-0634	163
25	Secure RSA Variant System to Avoid Factorization Attack using Phony Modules and Phony Public key Exponent	K R Raghunandan, **Ganesh Aithal**, Surendra Shetty	Computer Science & Engineering	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	2278-3075	164

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
26	Skin Disease Recognition Using Texture Analysis	**Ganesh V N,** Vibha, Prajwitha J Puthran, Fidelia Chaitra Siri , Varnasri Jain M	Electronics & Communication Engineering	International Journal of Engineering Research & Technology (IJERT)	2278-0181	165
27	Analysis of PID Control Algorithms for Transfer Function Model of Electric Vehicle	**Vinayambika S Bhat,** Akshitha G. Shettigar, Nikhitha, NidhiDayanand, K. P.Vishal Kumar	Electronics & Communication Engineering	Journal of Recent Technology and Engineering	2277-3878	166-167
28	Modeling of Audio effects for Music and Voice Synthesis	**Dony Armstrong D'Souza,** V. Veena Devi Shastrimath	Electronics & Communication Engineering	IEEE Digital Explore	978-1-5386-7809-1	168
29	Secured Video Steganography in DWT/DCT Domains based on Multiple Objects Tracking using H.264 Algorithm	**Laxmi Gulappagol,** K. B. Shivkumar	Electronics & Communication Engineering	International Journal of Recent Technology and Engineering	2277-3878	169
30	Arecanut Grade Analysis using Image Processing Techniques	**Pushparani M.K,** . D Vinod Kumar, AbdullaGubbi	Electronics & Communication Engineering	International Journal Of Engineering Research & Technology NCRACES	2278-0181	170

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
31	Brain Tumor Detection using Hidden Markov Chain Algorithm in Image Processing	**Pushparani M.K,** D Vinod Kumar, AbdullaGubbi	Electronics & Communication Engineering	International Journal Of Engineering Research & Technology RTESIT	2278-0181	171
32	Application of Raspberry-Pi model for Plant Disease Detection	Ranjitha B N, Bhagappa, Harshith U**,** **Pushparani M K**	Electronics & Communication Engineering	International Journal Of Engineering Research & Technology RTESIT	2278-0181	172
33	Anti-Theft Control System	**Ranjith H D,** Anusha B, Arfha Fathima, Fathima Muhammed Iqbal, Hafeeza Jinan	Electronics & Communication Engineering	International Journal of Engineering Research & Technology	2278-0181	173
34	Power Theft Detection using GSM	Rekha R Patil, Shwetha, Thrupthi, Vaishnavi S Shetty, **Sanjeevi Kumar P**	Electronics & Communication Engineering	International Journal of Engineering Research & Technology	2278-0181	174
35	Generator Monitoring using Android Phone	**Bhargavi K Rao,** Rajeshwari, Pradeep M, Ranjitha, Sathwik	Electronics & Communication Engineering	International Journal of Engineering Research & Technology	2278-0181	175

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
36	Kannada Speech Recognition Enquiry System for Farmers	**Anjani,** Ranjitha V P, Pooja, Manjunath Acharya, Ganesh Kamath	Electronics & Communication Engineering	International Journal of Engineering Research & Technology	2278-0181	176
37	Helious Helmet	**Sahana Devali,** Akshatha, Ashwini, Bhakthi Shetty, Nishchitha	Electronics & Communication Engineering	International Journal Of Engineering Research & Technology RTESIT	2278-0181	177
38	Covert Communication based on Symlet and Daubechies Wavelets	**Laxmi Gulappagol,** K. B. Shivkumar	Electronics & Communication Engineering	International Journal of Recent Technology and Engineering, Application and Management	2454-9150	178
39	Review of Different Fuzzy Logic Approches for Prioritizing Software Requirements	**Raghavendra Devdas**, G.N Srinivasan	Information Science & Engineering	International Journal of Scientific & Technology Research	2277-8616	179
40	Impact of Mobile Learning in the Cloud on Learning Competencies of Engineering Students	**Ramananda Mallya K,** Srinivasan B	Information Science & Engineering	International Journal of Online and Biomedical Engineering	2626-8493	180

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
41	Effect of annealing and ageing treatment on pitting corrosion resistance of fine-grained Mg-8%Al-0.5%Zn alloy	**Gajanan M Naik,** S Narendranath, S. S. Satheesh Kumar, Sandeep Sahu	Mechanical Engineering	Journal of The Minerals, Metals & Materials JOM	1047-4838	181
42	An Experimental Investigation of Microwave Developed Nickel-Based Clads for Slurry Erosion Wear Performance Using Taguchi Approach	Ajit M. Hebbale, Ravindra I. Badiger, M. S. Srinath**,** **Gajanan M Naik**	Mechanical Engineering	Metallography, Microstructure, and Analysis	2192-9262	182
43	Dry Sliding Wear Behaviour of Multi Walled Carbon Nanotubes Reinforced Aluminium Composites Produced by Powder Metallurgy Technique	**Shivaramu H T,** Umashankar K S	Mechanical Engineering	Materials Research Express	2053-1591	183-184
44	Application Potential of Fuzzy and Regression in Optimization of MRR and Surface Roughness during Machining of C45 Steel	Santhosh Madival, Mohammed Riyaz , Manjunath Lingappa Halappa, **M Lokesha**	Mechanical Engineering	Periodica Polytechnica	1819-6608	185
45	Portable Groundnut Stripper	**Bhanuprakash H S,** Harish D S, Karthik G C, Sahebagoud. Sanganagoudar	Mechanical Engineering	International Research Journal of Engineering and Technology	2395-0072	186

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
46	Computational Analysis of Thermal Behavior within a Scraped Surface Heat Exchanger	**Rajesh S C,** GauthamKrishnan, Sreehari p,Akhil Naryanan K, Sibin S Nair	Mechanical Engineering	International Journal of Trend in Scientific Research and Development	2456-6470	187
47	Investigation of Machinability Characteristics on C45 Steel Alloy while Turning with Untreated and Cryotreated M2 HSS Cutting Tools	Santosh, Mohammed Riyaz Ahmed, **M. Lokesha,** Manjunath L. H	Mechanical Engineering	ARPN Journal of Engineering and Applied Sciences	1819-6608	188
48	Investigation of machinability characteristics on C45 steel with cryogenically treated M2 HSS tool using statistical technique	Santosh Kumar, Mohammed Riyaz Ahmed**,** **M.Lokesha** , Manjunath L H	Mechanical Engineering	International Journal for Simulation and Multidisciplinary Design Optimization	1779-6288	189
49	Investigation of Mechanical Properties and Applications of Polylactic Acids—A Review	**S Divakara Shetty** Nagaraja Shetty	Mechatronics Engg	Materials Research Express	2158-5849	190
50	A Review on Metallic Dental Materials and Its Fabrication Techniques	Tejas Gupta, Siddhanth Shetty, Nagaraja Shetty, **Divakara Shetty S**	Mechatronics Engg	International Journal of Mechanical and Production Engineering Research and Development	2249-8001	191

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
51	A Literature Review on Processing and Testing of Mechanical Properties of Hybrid Composites using Graphene/Epoxy with Alumina	**Divakara Shetty S** Nagaraja Shetty	Mechatronics Engg	International Journal of Mechanical Engineering and Technology	0976-6340	192
52	Accident At Vidyalaya school - An Ethical Dilemma	**Jayadeva Prasad Moleyar**	Master of Business Administration	Emerald Emerging Markets Case Studies	2045-0621	193
53	Determinants and Dimensions of Corporate commitment to Social Responsibility: A study with reference to Large Scale Units in Karnataka	**Jayashri Shetty**	Master of Business Administration	International Journal ofAsian Economic Light	2277-7741	194
54	Trends and Status of Corporate Social Responsibility in Karnataka: An Empirical Study	**Jayashri Shetty**	Master of Business Administration	International Journal ofIndian Economic Light	2277-3142	195

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3.3.2 Number of papers published per Teacher in the Journals notified on UGC website during the Academic Year 2017-18

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
1	Structural and Vibrational Characteristics of a Non-Linear Optical Material 3-(4-Nitrophenyl)-1-(Pyridine-3-yl) Prop-2-en-1-one probed by Quantum Chemical Computation and Spectroscopic Techniques	Ram Kumar, T. Karthick, PoonamTandon, Parag Agarwal, **Anthoni Praveen Menezes**, A. Jayarama	Physics	Journal of Molecular structure	0022-2860	196
2	A Study of effect of dye structure on polyelectrolyte Induced metachromasy	**Nandini R**	Chemistry	Journal of Chemical and Pharmaceutical Sciences	0974-2115	197
3	Synthesis and Characterization of Biologically Important (E)(2Chloro/Hydroxy-6/8-Substituted Quinolin-3-yl)-N- [5-(4-Substitued Phenyl)1, 3, 4-Thiadiazol-2-yl] Methanimines	**Vineetha Telma D'Souza, Janardhana Nayak**	Chemistry	Journal of Chemical and Pharmaceutical Sciences	0974-2115	198
4	Synthesis of Quinoline Containing Pyrazolone Derivatives and their Biological Studies	**Vineetha Telma D'Souza, Janardhana Nayak, Shivaprasad ShettyM, Dayananda P Anil Kumar S H**	Chemistry	Journal of Chemical and Pharmaceutical Research	0975-7384	199
5	Synthesis, Characterisation and Antimicrobial studies of 4, 6-Disubtuted Phenyl - (5-Subsutied Phenyl -1, 3, 4-Thiadiazol-2-yl) -1, 4, 5, 6-Tetrahydro Pyrimidine-2-Thiols	Dayananda P, Janardhana Nayak ,Ramesha Bhat, **Vineetha Telma D'Souza**	Chemistry	International Journal of ChemTech Research	0974-4290	200

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
6	Corrosion Inhibition of Mild Steel by Capacitabine in Hydrochloric Acid Medium	**A.M. Guruprasad, H.P. Sachin, G.A. Swetha**	Chemistry	Asian J. Chem.	0970-7077	201
7	Use of Seroquel as an Effective Corrosion Inhibitor for Low Carbon Steel in 1 M HCl	G. A. Swetha, H. P. Sachin, **A.M. Guruprasad,** B. M. Prasanna, K. H. Sudheer Kumar	Chemistry	Journal of Bio- and Tribo-Corrosion	2198-4220	202
8	Computation of Stability Derivatives of an Oscillating Cone for Specific Heat Ratio =1.66	Aysha Shabana, Renita Sharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	IOP Conf. Series: Materials Science and Engineering	1757-899X	203
9	Estimation of Stability Derivatives in Newtonian Limit for an Oscillating Cone	Aysha Shabana, Renita Sharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	IOP Conf. Series: Materials Science and Engineering	1757-899X	204
10	Effect of Semi Vertex Angle on Stability Derivatives for an Oscillating Cone for Constant Value of Specific Heat Ratio	Aysha Shabana, Renita Sharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	International Journal of Engineering & Technology	2227-524X	205

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
11	The Computation of Stiffness Derivative for an Ogive in Hypersonic Flow	Aysha Shabana, Renita Sharon Monis, **Asha Crasta,** S.A. Khan	Mathematics	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	206
12	Hall Effects on Hydro magnetic Flow of a Jeffrey Fluid in an Asymmetric Channel with Peristalsis	**Jyothi S,** Gangavathi.P, M. V. Subba Reddy	Mathematics	Journal of Advanced Research in Dynamical and Control Systems	1943-023X	207
13	Effect of First Order Chemical Reaction on Fully Developed Natural Convection of Micropolar Fluid in a Vertical Channel	Sridevi Kalyani, **RamaraoY,** Patiyal Mallikarjun N	Mathematics	Journal of Applied Science and Computations	1076-5131	208
14	Dual Survival	**Srinath R, Sahana D S**, Ashik I Ruther, Chandini	Aeronautical Engineering	International Journal for Research in Applied Science and Engineering Technology	2321-9653	209
15	Design of an unmanned aerial vehicle with long range and endurance	Yathin K L, **Praneeth HR,** Sundeep Jangir, Suraj Kumar, Camilla Wilfred	Aeronautical Engineering	International Journal of Technical Innovation in Modern Engineering & Science	2455-2585	210
16	Design and Fabrication of Pneumatically actuated Emergency Exit System in Aircrafts	**Praneeth H R**, Yathin K L, Punith J Reddy, J Adarsh, Soumyashree N,Vikas Pawar	Aeronautical Engineering	International Journal of Advanced Research in Science, Engineering and Technology	2350-0328	211

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
17	Fault Diagnosis in Belt Drive Transmission using Wavelet Spectrum	**Sujesh Kumar, M. Lokesha,** Akshatha G K, Balaji KN, N Raghavendra, Uma Shankar	Aeronautical Engineering	International Journal of Innovative Research in Science, Engineering and Technology	2319-8753	212
18	Study and Analysis Of Modification Of Rotor Configuration In A Notar Helicoptor	**Srinath. R, Sahana D. S.,**Shreyas Kammar, Shwetha	Aeronautical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	213
19	Experimental Investigation on Micro Truss Reinforced Roofing System	**Umesh S.S**., A.V. PradeepKumar **Ganesha Mogaveera**	Civil Engineering	International journal of civil Engineering and Technology	0976-6308	214

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
20	Comparative Study of Different Configuration of Roof Truss for an Industrial Truss	**Yashwanth M K** , DivyaShree M , Shreyas K S	Civil Engineering	International Journal of Emerging Trends in Engineering and Development	2249-6149	215
21	Desalination Approach of Seawater and Brackish Water by Coconut Shell Activated Carbon as a Natural Filter Method	**Jayaprakash M C,** Poorvi Shetty, Raju Aedla D Venkat Reddy	Civil Engineering	International Journal of Trend in Scientific Researchand Development	2456-6470	216-217
22	Planning and Implementation of Rain Water Harvesting System in MITE, Moodabidri, Karnataka-Geological and Hydrogeological in Puts Typical Analysis	**Jayaprakash M C,** Poorvi Shetty	Civil Engineering	Journal of Water Resources and Pollution Studies	2581-5326	218
23	Investigation on Cost Effective Slab System having Different Types of Micro Reinforcement	**Mr.Umesh S S,** AVPradeepkumar	Civil Engineering	International Journal of Civil Engineering & Technology	0976-6308	219
24	A Study on behavior of V and Trapezoidal Type of Folded Plate Roofs for Fixed and Hinged Boundary Conditions	**Mrs.Roopalaxmi Yadoor,**Y R Suresh	Civil Engineering	International Journal of Engineering & technology	2227-524X	220

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
25	Application of Soft Computing Techniques in Breakwater-A Review	**Anusha Jain** SubbaRao	Civil Engineering	International Journal of Scientific & Engineering Research	2229-5518	221
26	Strength characteristics of C-shaped equal legged RC columns and Rectangular columns using Pu–Mu interaction diagram	**Suraj shet,** Sabyath Shetty, Shanmukha shetty	Civil Engineering	International Journal of Applied Engineering Research	0973-4562	222
27	Analysis of Pu-Mu Interaction Diagram of C-Shaped Equal Legged RC Column Developed using ETABS and Analytical Method	**Suraj Shet**, Sabyath Shetty, Shanmukha Shetty	Civil Engineering	International Journal of Engineering & Technology	835-839	223
28	Alternative foundations for residential Buildings	**Ganesha Mogaveera,** Anand V R, **Umesh S S**	Civil Engineering	International Journal of Scientific & Engineering Research	2229-5518	224
29	A Video Face Recognition System with Aid of Support Vector Machine and Partical Swarm Optimization (PSO-SVM)	**T. Shreekumar,** K. Karunakara	Computer Science & Engineering	Journal of Advanced Researchin Dynamical and Control Systems	1943-023X	225

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
30	Design of Centralized Robust PI Controller for a Multivariable Process	**Vinayambika S. Bhat,** I.Thirunavukkarasu, S.Shanmuga Priya	Electronics & Communication Engineering	Journal of Engineering Science and Technology	1823-4690	226-227
31	Decentralized PI controller with Decoupler for the Distillation Column	Santhosh Kumar P L, S.Selva Kumar, I. Thirunavukkarasu, **Vinayambika S. Bhat**	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	228-229
32	Experimental Validation of PI Controller Based on Pole Placement for a Batch Distillation Column	Santhosh Kumar P L, S.Selva Kumar, I. Thirunavukkarasu, and **Vinayambika S Bhat**	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	230-231
33	Identifying the Stabilizing Region of PID Controller Using Polytopic Polynomial Approach for Pilot Plant Binary Distillation Column	**Vinayambika S Bhat, I.** Thirunavukkarasu, S. Shanmuga Priya, Janani R	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	232-233
34	Experimental Implementation of CDM based Two Mode Controller for an Interacting 2*2 Distillation Process	Janani R., I. Thirunavukkarasu, **Vinayambika S Bhat**	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	234-235

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
35	Decentralized PI Control Design for a Pilot Plant Distillation System Using LMI Approach	Revathy Priyadharshini.K, S.Selvakumar, I Thirunavukkarasu, Sheesha.C, **Vinayambika S. Bhat**	Electronics & Communication Engineering	Journal of Advanced Research in Dynamical & Control Systems	1943-023X	236-237
36	Predictive Control Algorithm Based on Integral Action-Design and Implementation on a Conical Tank System	**Vinayambika S Bhat ,** I.Thirunavukkarasu , S. Shanmuga Priya, Shreesha C	Electronics & Communication Engineering	EDP Sciences	2261-236X	238-239
37	Smith Predictor Based PI Controller Design for a Batch Distillation Column	Santhosh Kumar. P. L, I. Thirunavukkarasu, S. Selva Kumar, **Vinayambika S. Bhat**	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	314-3395	240-241
38	Remote Temperature checking Gadget Utilizing A Numerous Patients - Organizer Set plan Approach	Rahul A, **Malini Suvarna, Sathisha**	Electronics & Communication Engineering	International Journal of Engineering Research & Technology	2278- 0181	242
39	Mobile Learning in the Cloud: New Stage for Knowledge Management	**Ramananda Mallya K,** B Srinivasan	Information Science & Engineering	International Journal of Computer Science and Engineering	2347-2693	243

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
40	Effect of Injection Timing on the Utilization of B20 Blends of Dairy Scum Oil Methyl Esters (Dsome) Fulled Diesel Engine	M Nandeesh, **C. R. Rajashekar,** N.R. Banapurmath	Mechanical Engineering	European Journal of Sustainable Development Research	2542-4742	244
41	Investigating the Role of Fatty Acid Methyl Ester Composition on Engine Performance and Emission Characteristics	B. Jeeva, **C. R. Rajashekar**	Mechanical Engineering	International Journal of Vehicle Structures and Systems	0975-3060	245
42	Experimental Investigation On Accelerated Biodiesel Oxidation For Karanja Oil Methyl Ester	Jeeva Balu, **C. R. Rajashekar**	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249–6890	246
43	Studies on Effect of Graphene Nanoparticles Addition in Different Levels with Simarouba Biodiesel and Diesel Blends on Performance, Combustion and Emission Characteristics of CI Engine	B. M. Paramashivaiah, N.R. Banapurmath, **C. R. Rajashekar,** S. V. Khandal	Mechanical Engineering	Arabian Journal for Science and Engineering	2193-567X	247
44	Fabrication Methods, Recent Developments and Applications of Carbon-Carbon Composites (CCC)-A Review	Sunil Kumar B V, **Neelakantha V L,** Surendranathan A.O, Gururaja Rao J	Mechanical Engineering	International Research Journal of Engineering and Technology	2395-0072	248

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
45	Condition Monitoring of a Round Bar with a Defect Using Vibration Analysis	**Neelakantha V londhe,** Muhammed Siraj U.M, Adnan Ashraf, Jabir V.P, Roshil Rose	Mechanical Engineering	STM JOURNAL, Trends in Machine Design	2455-3352	249
46	Studies on Effect of Injection Pressure of Graphene Nanoparticles added Simarouba Biodiesel Blend Fuel on CI Engine Performance and Emission.	B.M. Paramashivaiah, **C R Rajashekhar**,	Mechanical Engineering	Fronteiras: Journal of Social, Technological and Environmental Science	2238-8869	250
47	Mechanical and Wear Characteristics of ZrSiO4 Reinforced Aluminium Metal Matrix Composite	**Ramesha V,** Prasad T.B,Vighnesha Nayak, Neelkant V L	Mechanical Engineering	International Journal of Civil, Mechanical and Energy Science	2455-5304	251

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
48	A review: Mechanical Properties of HSS Steel by deep Cryo-Treatment	Santosh, Manjunatha L H, **Lokesha M**, B S Ajaykumar	Mechanical Engineering	IOP Publishing IOP Conf. Series: Materials Science and Engineering	1757-8981	252
49	The Performance Optimization of Deep Cryogenically Treated M2 HSS Tool in Turning of C45 Steel for Hardness and MRR	Santosh, Mohammed Riyaz Ahmed,Manjunatha L.H,**Lokesha M,** Ajay Kumar B.S,Praveen Digge	Mechanical Engineering	International Journal of Mechanical and Production Engineering Research and Development	2249-6890	253
50	Fuzzy Logic And Regression Modelling Of Machining Parameters In Turning Using Cryo-Treated M2 HSS Tool	Santosh , Manjunath L.H, Mohammed Riyaz Ahmed, **M Lokesha**	Mechanical Engineering	International Journal of Mechanical Engineering and Technology	0976 – 6340	254
51	Detection of Intruders in Warehouses using Infrared based Thermopile Sensor Array	**Akshaya D Shetty,** Glenson Toney	Mechatronics Engineering	IOP Publishing IOP Conference Series: Materials Science and Engineering	1757-8981	255

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
52	Design of Effective Hydraulic Braking System for Formula Motorsport Car	Vinay kumar ManjunathNaik, Ramesh K M, **Sathyanarayana, M Lokesha**	Mechatronics Engineering	IOP Publishing IOP Conf. Series: Materials Science and Engineering	1757-8981	256
53	Design of Efficient Powertrain System for a Motorsports Race Car using a Bike Engine	Ramesh K M, Vinay kumar Manjunath Naik, **Sathyanarayana, M Lokesha**	Mechatronics Engineering	IOP Publishing IOP Conf. Series: Materials Science and Engineering	1757-8981	257

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3.3.2 Number of papers published per Teacher in the Journals notified on UGC website during the Academic Year 2016-17

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
1	A Comparative Study of Metachromasy Induced by Anionic Polelectroytes in Toluidine Blue	**Nandini R,** Vishalakshi B	Chemistry	Science Journal of chemistry	2330-0981	258
2	Polyelectrolyte induced metachromasy: Effect of Binding Sites	**R Nandini**	Chemistry	Journal of Chemical and Pharmaceutical Research	0975-7384	259
3	Pressure and its Derivative with respect to Piston Mach Number for an Oscillating Cone	Aysha Shabana, RenitaSharon, **Asha Crasta,** S.A. Khan	Mathematics	IOSR Journal of Mechanical and Civil Engineering	2320-334X	260
4	Supersonic Flow Analysis and Evaluation of Damping Derivative	Renita Sharon, Aysha Shabana, **Asha Crasta**, S.A. Khan	Mathematics	IOSR Journal of Mechanical and Civil Engineering	2320-334X	261
5	Estimation of Stability Derivative of an Oscillating Cone in Hypersonic Flow	Aysha Shabana, RenitaSharon, **Asha Crasta,** S.A. Khan	Mathematics	International Journal of Recent Research Aspects	2349-7688	262

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
6	Peristaltic Flow of a Conducting Newtonian Fluid in an Inclined Channel under the Effects of Hall Current	Gangavathi.P, M. V. Subba Reddy, **Jyothi.S**, Yogeswara reddy P	Mathematics	International Journal of Engineering Research in Computer Science and Engineering	2394-2320	263
7	Performance Study of Yattria Stabilized Zirconia and Gadolinium Zirconate Coating for Nickel Base Alloy for Turbine Application	**G.Purushotham**	Aeronautical Engineering	Indian Journal of Advances in chemical science	2320-0928	264
8	Bio-Inspired Study and Build-Out of New Airfoil for the Design of Basic Aircraft.	**Sahana D S, Srinath R**	Aeronautical Engineering	International Journal Of Innovative Science And Research Technology	2456-2165	265
9	Energization of Boundary Layer Over Wing Surface By Vortex Generators	**Srinath R, Sahana D S**	Aeronautical Engineering	International Journal Of Innovative Science And Research Technology	2456-2165	266
10	Aerodynamic Analysis of Forward Swept Wing Using Prandtl-D Wing Concept.	**Srinath R, Sahana D S**	Aeronautical Engineering	International Journal of Engineering Trends and Technology	2231-5381	267

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
11	Comparative Study on Properties of GGBS Based Geopolymer Concrete with Plain Cement Concrete	**Yashwanth M K , G L Easwara Prasad, TejusM V**	Civil Engineering	International Journal of Emerging Trends inEngineering and Development	2249-6149	268
12	Experimental Investigation on Water Transport Phenomenon Between Laterite Blocks and Mortar in Laterite Blocks Masonry	**Ganesha Mogaveera , Umesh S S**	Civil Engineering	International Journal for Science and Research in Technology	2395-1052	269
13	Desalination Approach of Seawater and Brackish Water by Coconut Shell Activated Carbon as a Natural Filter Method	**Jayaprakash M C,** PoorviShetty, Raju Aedla, D Venkat Reddy	Civil Engineering	International Journal of Earth Sciences andEngineering	0974-5904	270
14	A Study on Hardness Attributes of Banana and Jute Polyester Composites	Megha BE, B S KeerthiGowda, **G L Easwara Prasad**	Civil Engineering	International Journal of Engineering Research in Mechanical and Civil Engineering	2456-1290	271
15	Generation of Maximum Length Non-binary Key Sequence and its Application for Stream Cipher based on Residue Number System	Sudeep K B**, GaneshAithal**	Computer Science & Engineering	Journal of Computational Science	1877-7503	272

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
16	High Performance Computation of Big Data: Performance Optimization Approach towards a Parallel Frequent Item Set Mining Algorithm for Transaction Data based on Hadoop Map Reduce Framework	Guruprasad M S, **NageshH R**, Swathi Prabhu	Computer Science & Engineering	International Journal of Intelligent Systemsand Applications	2074-9058	273
17	A Survey on Key(s) and keyless Image Encryption Techniques	Ranjan Kumar H.S, Fathima SafeeriyaS.P, **Ganesh Aithal**	Computer Science & Engineering	Cybernetics and Information Technologies	1311-9702	274
18	Design and Implementation of Decentralized PI Controller for Pilot Plant Binary Distillation Column	**Vinayambika S Bhat,** I.Thirunavukkarasu, S. Shanmuga Priya	Electronics & Communication Engineering	International Journal of Chem Tech Research	2455-9555.	275-276
19	Local Transient Model of a Pilot Plant Distillation Response	**Vinayambika S Bhat,** S.Shanmuga Priya, I. Thirunavukkarasu, R. Russell Rhinehart	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	277-278
20	Extended Predictive Controller for a First Order Process with Dead Time Model	Bharath K Udupa, I.Thirunavukkarasu, Dayananda Nayak, **Vinayambika S Bhat**	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	279

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
21	Accurate Classification of Remote Sensed Data for Land use/ Land Class of Mangalore Coastal Region	**Srikrishna Shastri C,** Ashok Kuma T, Shiva Prakash Koliwad	Electronics & Communication Engineering	IEEE Xplore	978-1-5386-3243-7	280
22	Data Logging of Processed Real Time Signal by Bluetooth and User Friendly GUI in Java Platform	**Bhargavi K Rao,** Shashank M Gowda	Electronics & Communication Engineering	IEEE Xplore	978-1-5090-3704-9	281
23	Design and Simulation of Kalman Filter for the Estimation of Tray Temperatures in a Binary Distillation Column	Sree Latha Chopparapu, V. I. George, I. Thirunavukkarasu, **Vinayambika S Bhat**	Electronics & Communication Engineering	International Journal of Pure and Applied Mathematics	1311-8080	282
24	Design and Implementation of MSC based Multi-loop PID Controller for Pilot Plant Binary Distillation Column	**Vinayambika S Bhat,** I. Thirunavukkarasu, Janani.R	Electronics & Communication Engineering	IEEE Xplore	978-1-5090-4967- 7	283-284
25	Facial Land Mark Detection and Locatiozation Using Point Distribution Model	Jayashree S katagihalli, **Srikrishna Shastri C**, Naveen S Pagad	Electronics & Communication Engineering	International Journal of Advanced Research in Computer Science and Electronics engineering	2277-9043	285

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
26	Studies on Effect of Injection Timing of Graphene Nanoparticles Blended Simarouba Biodiesel Blend on Compression-ignition Engine	B.M. Paramashivaiah, **C R Rajashekha**r	Mechanical Engineering	International Journal of Engineering	2423-7167	286
27	On-Chip Waste Heat-Driven Absorption Cooling	S. Manu, **T K Chandrashekhar**	Mechanical Engineering	International Journal of Sustainable Engineering	1939-7038	287
28	A Review on Automatic Fault Detection and Diagnosis in a Single Point Cutting Tool Using Wavelet Analysis	Santosh, **M Lokesha**, Prof L. H. Manjunath	Mechanical Engineering	International Journal of Advances in Scientific Research and Engineering	2454-8006	288
29	Millennium Development Goals and Corporate Social Responsibility of Large Scale Units in Karnataka	**Jayashri Shetty**	Master of Business Administration	International Journal of Trend in Research and Development	2394– 9333	289

Academic Year 2015-16

3.3.2 Number of papers published per Teacher in the Journals notified on UGC website during the Academic Year 2015-16

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
1	Structural, Thermal, Linear and Nonlinear Optical Studies of an Optical Limiter Based on Reverse Saturable Absorption	**Anthoni Praveen Menezes,** S. Raghavendra, A. Jayarama, H.P. Sarveshwara, S.M. Dharmaprakash	Physics	Journal of Molecular structure	0022-2860	290
2	Effect of Aspect Ratio with Roll Moment Derivative of a Delta Wing in Supersonic Flow	**Asha Crasta,** S.A.Khan	Mathematics	International Journal of Advances in Engineering Research	2231-5152	291
3	Estimation Of Surface Pressure Distribution On A Delta Wing Curved Leading Edges In Hypersonic/Supersonic Flow	**Asha Crasta,** S Pavitra, S.A.Khan	Mathematics	International journal of energy,environment and Economics, Nova Science publishers	1054-853X	292
4	Estimation of Aerodynamic Derivatives in Pitch of a Wedge in Hypersonic Flow	S Pavitra, S Lavanya, S. A. Khan**, AshaCrasta**	Mathematics	Indian Journal of Science and Technology.	0974-6846	293
5	Analysis of Variation of Stiffness Derivative with Mach Number and angle of attack in Supersonic Flow	**Asha Crasta, Aysha Shabana, Renita Monis, S.A. Khan**	Mathematics	IOSR Journal of Mechanical and Civil Engineering	2320-334X	294

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
6	Study of Physico-Chemical Properties of Monel M- 35-1 Nickel Alloy-Fused Silica MMC for Marine Application	**G.Purushotham,** Joel Hemanth	Aeronautical Engineering	Indian Journal of Advances in chemical science	2320-0928	295
7	Experimental Investigation of Buckling Strength Comparison Between Metallic and CFRP Sandwiched Composite Panel	**G.Purushotham**	Aeronautical Engineering	International Journal of Civil, Mechanical and Energy Science, Infogain Publication, Vol. 2,Issue-2, pp 21-26	2455-5304	296
8	Effect of Chilling on Soundness, Micro Hardness and Ultimate Tensile Strength of Nickel Alloy-Fused Silica Metal Matrix Composite	**G. Purushotham,** Joel Hemanth	Aeronautical Engineering	International Journal of Civil, Mechanical and Energy Science (IJCMES) Infogain Publication, Vol. 2, Issue-2, pp 21-26	2455-5304	297
9	CFD Analysis of Box Wing Configuration	**Sahana D S, AbdulAabid**	Aeronautical Engineering	International Journal of Science and Research	2319-7064	298

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
10	Performance Based evaluation of response reduction factor for elevated water tank	Roja M, T.S sahana , Naveen G.M, **Sagar S**	Civil Engineering	International Research Journal of Engineering and Technology	2395-0056	299
11	Message Transformation Designer for Messaging System Using Streaming Transformation for XML(STX)	Ms Rjani M V, **Annappa Swamy D R**	Computer Science & Engineering	International Journal of Advanced Research in Computer and Communication Engineering	2278-1021	300
12	Smart Shopping Using Augmented Reality on Android OS	Ashwitha D, **Manjunath A S**	Computer Science & Engineering	International Journal of Engineering Research and General Science	2091-2730	301
13	Particle Swam Optimization based Identification of Face Images from Video	**Shreekumar T, Karunakara K.**	Computer Science & Engineering	International Journal of Advanced Computational Engineering and Networking	2320-2106	302
14	Integrity Auditing and Secure Deduplicating the Dataon Cloud Storage	Lohith Kumar K K, **Ashwin Kumar M**	Computer Science & Engineering	International Journal of Advanced Research in Computer and Communication Engineering	2278-1021	303

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
15	A Novel based Approach for Pose estimation and Normalization using Multi-Class SVM and Affine Transformation for Face Recognition	Shilpa R, **Shreekumar T**	Computer Science & Engineering	IOSR Journal of Computer Engineering	IS2278-0661	304
16	Local Binary Pattern and Local Linear Regression for Pose Invariant Face Recognition	Raju Dadasab Patil, **Shreekumar T**, Karunakara K	Computer Science & Engineering	International Journal of Science Technology and Engineering	2349-784X	305
17	Analysis of TCP Outcast problem in Data Center Network and Mitigating it using DCTCP	Rajashree, **Nagesh H R**	Computer Science & Engineering	International Journal for Scientific Research and Development	2321-0613	306
18	An A3P Approach Towards Image Privacy Policy Recommendation on Content Sharing Sites	Mrs. Swapna R, **Nagesh H R**	Computer Science & Engineering	International Journal of Advanced Networking &Applications	0975-0282	307
19	Survey Paper on Data Lake	**Surabhi D Hegde, Ravinarayan B**	Computer Science & Engineering	International Journal of Scienceand Research	2319-7064	308

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
20	Text Document Annotation and Retrieval Based on Content of the Document and Query Workload	Arunima P V, **Ravinarayan B**	Computer Science & Engineering	International Journal of Science and Research	2319-7064	309
21	Detecting Malicious Posts in Social Networks usingText Analysis	Neeraja M, **JohnPrakash**	Computer Science & Engineering	International Journal of Science and Research	2319-7064	310
22	Classification of Chemical skin Burn using SVMMethod	**Malini Suvarna, N Venkategowda**, L Deepak	Electronics & Communication Engineering	IEEE Xplore	978-1-4673-7667-9	311
23	Identification of Land Cover Changes in the Coastal Area of Dakshina Kannada District, South India during the Year 2004-2008	J Jayanth, T Ashok Kumar, ShivaprakashKoliwad, **SrikrishnaShastri C**	Electronics & Communication Engineering	The Egyptian Journal of Remote Sensing and Space Science	1110-9823	312
24	An Experimental Study on Implementation of Centralized PI Control Techniques on Pilot PlantBinary Distillation Column	**Vinayambika S Bhat,** I. Thirunavukkarasu, S. Shanmuga Priya	Electronics & Communication Engineering	International Journal of ChemTech Research	0974-4304	313-314

Sl. No.	Title of paper	Name of the author/s	Department ofthe Teacher	Name of Journal	ISSN/ISBN Number	Page No.
25	Feature Extraction of Hyper Spectral Images Based on LBP & RF feature Extract Techniques	Soumya M, **Dony Armstrong D'souza**	Electronics & Communicati onEngineering	International Journal of Science and Research	2319-7064	315
26	Design and Implementation of an Embedded Device to Detect Military Fratricide Crisis	**Padma Prasada , Sathish Shetty**	Electronics & Communicati onEngineering	IEEE Xplore	978-1-4673-6726-4	316
27	Advances in Classification Techniques for Semi Urban Land Features using High Resolution Satellite Data	**Srikrishna Shastri C,** Ashok Kumar T, Shivaprakash Koliwad	Electronics & Communicati onEngineering	International Journal ofAdvanced Remote Sensing and GIS	2320-0243	317
28	Arduino based real time driver drowsiness detection and mobile alert system using Bluetooth,	Lestin Jills Joseph, **M.Lokesha**	Electronics & Communicati onEngineering	International Journal of Engineering And Computer Science	2319 -7242	318
29	Crucial Role of Molecular Planarity on the Second Order Nonlinear Optical Property of Pyridine Based Chalcone Single Crystals	**Anthoni Praveen Menezes,** A. Jayarama, SeikWengNg	Physics	Journal of Molecular structure	0022-2860	319

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
30	Estimation of Damping Derivative of a Delta Wing with Half Sine Wave Curved Leading Edges	**Asha Crasta,** S.A.Khan	Mathematics	IOSR Journal of Mechanical and Civil Engineering	2278-5728	320
31	Effect of Angle of Attack on Stiffness Derivative of an Oscillating Supersonic Delta Wing with Curved Leading Edges	**Asha Crasta,** S.A.Khan	Mathematics	IOSR Journal of Mechanical and Civil Engineering	2278-8697	321
32	Effect of Angle of Attack on Damping Derivative of a Delta Wing with Full Sine Curved Leading Edges	**Asha Crasta,** S.A.Khan	Mathematics	International Journal of Emergency Trends in Engineering and Development	2249-6149	322
33	Effect of Aspect Ratio with Angle of Attack of an Oscillating Hypersonic Delta Wing with Straight Leading Edges	**Asha Crasta,** S.A.Khan	Mathematics	Mathematical Sciences International research Journal	2278-8697	323
34	Fabrication and Evaluation of Corrosion Behavior of Nickel Alloy Metal Matrix Composite with Influence of Chills	**G.Purushotham, Joel Hemanth**	Aeronautical Engineering	Advanced Materials Research	1662-8985	324

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
35	Experimental Comparison of E-Glass Fiber Reinforced Thermosetting and Thermoplastic Composites for Tensile Strength	Srinivas K R, Premkumar Naik Somanath B	Aeronautical Engineering	International Journal for Scientific Researchand Development	2321-0613	325
36	Performance based Seismic Evaluation of Industrial Chimneys by Static and Dynamic Analysis	**Sagar S, Basavaraj Gudadappanavar**	Civil Engineering	International Research Journal of Engineering and Technology	2395-0072	326
37	Comparative Study of Flat Slab and Conventional Slab Structure using ETABS for Different Earthquake Zones of India	Mohana H.S, KavanM.R	Civil Engineering	International Research Journal of Engineering and Technology	2395-0072	327
38	Probabilistic Study of Tensile Property of Coir FiberReinforced Polymer Matrix Composite	**Keerthi Gowda B S, G L Easwara Prasad,** Velmurugan R	Civil Engineering	International Journal of Advanced Materials Science	2231-1211	328
39	Studies on the load carrying capacity of PlainCement Concrete Arches	**Ganesha Mogaveera, Sarangapani G**	Civil Engineering	International Journal of Earth science and Engineering	2103 -2107	329

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40	A New Approach for Video Steganography Based on Randomization and Parallelization	Sudeep K B, Raju K, Ranjan Kumar H S, **Ganesh Aithal**	Computer Science & Engineering	Procedia Computer Science	1877-0509	330
41	User Authentication in the Mobile Cloud	**Ramananda MallyaK,** A Kannammal	Information Science & Engineering	Research India Publications	0973-4562	331
42	A Comparative Study on Control Techniques of Non-Square Matrix Distillation Column	**Vinayambika S Bhat,** S. Shanmuga Priya, I. Thirunavukkarasu	Electronics & Communication Engineering	International Journal of Control Theory andApplications	0974-5572	332-333
43	Security Enhancement On LEACH Protocol From HELLO Flood Attack in WSN Using LDK Scheme	Mayur S, **Ranjith HD**	Electronics & Communication Engineering	International Journal of Innovative Research in Science,Engineering and Technology	2319-8753	334
44	Verilog based design of High Performance Data Access AMBA Memory Controller	Shobha R Hadimani, **Panchami**	Electronics & Communication Engineering	International Journal of Advances in Electronics and Computer Science	2393-2835	335

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45	Sampling and Reconstruction of Ordered Sets inPCIe 3.0	Sagar Kumar K S , **Venkategowda N**	Electronics & Communication Engineering	International Journal of Innovative Research in Science, Engineering and Technology	2347-6710	336
46	Solar Powered Multi-Level Water Pumping SystemFor Remote Areas	**Ravikumar R , Ashwini T P , MaliniSuvarna**	Electronics & Communication Engineering	International Journal of Advanced Scientific and Technical Research	2249-9954	337
47	Design of digital FIR filter using MCM Technique	Acharya Nikunj K **, Taranath H B**	Electronics & Communication Engineering	International Journal of Research	2348-795X	338
48	Memory Architecture Quad Core Risc Processor onAltera FPGA De Nano Board	**Venkategowda N,Ajay Pinto,Basavaraju**, Naveena Pai G,Shivaraj HG	Electronics & Communication Engineering	IEEE Computer Society	978-1-4799-1797-6	339
49	Novel memory Architecture Dual Core Processor onaltera FPGA DE Nano Board	**Venkategowda N,Ajay Pinto,**Naveena Pai G,Shivaraj HG	Electronics & Communication Engineering	International Journal of Engineering Research & Technology	2278 -0181	340

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
50	Performance Measure and Efficiency of Chemical Skin Burn Classification Using KNN Method	**Malini Suvarna, Venkategowda N**	Electronics & Communication Engineering	Procedia Computer Science	1877-0509	341
51	Determination of Fracture Toughness and Fatigue Crack Growth Rate using Circumferentially CrackedRound Bar	**Neelakantha V Londe,** T Jayaraju, Padmayya Naik, DilipKumar K, **C.R. Rajashekar,** Mohan Kumar	Mechanical Engineering	Aerospace Science and Technology, ELSEVIER publication	1270-9638	342
52	Studies on Design of Cyclone separator with TriChambered Filter Unit for Dust Removal in RiceMills	**T.K. Chandrashekar**, R Harish Kumar, T.B. Prasad, **C.R. Rajashekar**	Mechanical Engineering	International journal of Mining, Metallurgy and Mechanical Engineering	2320-4060	343
53	Investigation of Mechanical Properties of AlFeIntermetallic Composite	Varadaraj S , Mohan Kumar, **NeelakanthaV Londe**	Mechanical Engineering	International Journal of Engineering Research & Technology	2278-0181	344
54	Fault Detection and Diagnosis in Gears Using Wavelet Analysis Techniques and Comparison ontheir Diagnostic Capability	**M Lokesha, M.C. Majumder, K.P. Ramachandran**	Mechanical Engineering	Journal of Applied Mechanics and Materials, Volume: Manufacturing Science and Technology VI, Trans Tech publications	978-3-03835-543-4	345

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
55	Experimental Studies on Performance and Emission Characteristics of Ethanol-Cottonseed Oil-Diesel Blends in C.I Engine	Syed Razeequlla, **Suresh Kumar R, Prasad B.G, Somashekar T M**	Mechanical Engineering	International Journal of Engineering Research & Technology	2278-0181	346
56	PLC Based Pneumatic Punching Machine	Suddep Kelaginamane, **Sridhar D. R**	Mechanical Engineering	Journal of Mechanical Engg and Automation	2163-2405	347
57	A Study of Short Areca Fiber and Wood Powder Reinforced Phenol Formaldehyde Composites	**Premkumar Naik, Vinod Kumar, Sunil Kumar S, Srinivasa K. R**	Mechanical Engineering	American Journal of Materials Science	2333-4665	348
58	Experimental Comparison of E-glass Fibre Reinforced Thermosetting and Thermoplastic Composites for Tensile Strength	**Srinivas K. R, Prem Kumar Naik, Somanath B**	Mechanical Engineering	International Journal for Scientific Research and Development	2321-0613	349

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
59	Three-Body Abrasive Wear Study on A356 Aluminum Alloy Under T6 Heat Treated Conditions	**Vijay Kumar S.L, Vikranth Kannanth M S, Vinay D R**	Mechanical Engineering	American journal of materials science	2333-4665	350
60	Flexural Behaviour of Coconut Shell/Epoxy Composites Subjected to Accelerated Ageing	**Sunil Kumar ,Vinay D R, Saviraj A S, Prem Kumar Naik**	Mechanical Engineering	American Journal of Materials Science	2333-4665	351
61	Elastic Buckling Response of Equilateral TriangularTubes under Uni-Axial Compression,	**Saviraj A.S, Vinay D R, Sunil Kumar S**	Mechanical Engineering	Journal of Mechanical Engineering and Automation	2163-2405	352
62	Automatic Gas Stove with Advanced Safety Features	**Neelakantha V Londe**	Mechanical Engineering	International Journal of Recent Contributions from Engineering, Science & IT	2197-8581	353
63	Security Integrated System Using 3 DOFRobotic Lamps Along With SMS Alert	Priya S Nanral, **Lokesha M**	Mechanical Engineering	International Journal of Electrical and Electronics	2301-380X	354

Sl. No.	Title of paper	Name of the author/s	Department of the Teacher	Name of Journal	ISSN/ISBN Number	Page No.
64	Fault Detection and Diagnosis in Gears Using Wavelet Analysis Techniques and Comparison on their Diagnostic Capability	**M. Lokesha,** M.C. Majumder, K.P. Ramachandran	Mechanical Engineering	Manufacturing Science and Technology Applied Mechanics and Materials scientific .net	1662-9795	355
65	Fault Diagnosis in Belts using Time and Frequency based Signal Processing Techniques	Abdulrahman Abdulshakoor Al Bulushi, G.R. Rameshkumar **M. Lokesha**	Mechanical Engineering	International Journal of Multidisciplinary Sciences And Engineering,	2045-7057	356

3.3.2 Sample Journals Publications

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PAPER

Increasing the silicon solar cell efficiency with transition metal oxide nano-thin films as anti-reflection coatings

Raghavendra Sagar[1] **and Asha Rao**[2]

[1] Department of Physics, Mangalore Institute of Technology and Engineering (MITE), Badaga Mijar, Moodbidri, Dakshina Kannada, Karnataka, India

[2] Department of Physics, Sir M Visvesvaraya Institute of Technology, Krishnadeveraya Nagar, Yelahanka, Hunasamaranahalli, Bengaluru, Karnataka, India

E-mail: raghav_sagar@rediffmail.com

Keywords: photovoltiac cell, ARC, transition metal oxides, thin films, efficiency

Abstract

Herein, we report the study on RF-sputtered transition metal oxide thin films of Zinc oxide, Magnesium oxide, and Aluminum oxide as an antireflection coating on silicon-based solar cells and their influence on energy conversion. The transmission spectrum of all sputtered metal oxides was studied using a UV-visible spectrophotometer. The phase formation and microstructure analysis of these sputtered oxides were studied using glass for the destructive test along with the device. The x-ray diffraction and cross-section scanning electron microscopy of sputtered glass confirmed a single-phase structure along with nearly equal desired deposition thickness. The thicknesses of sputtered films were estimated using variable angle ellipsometry and the same was confirmed from cross-section scanning electron micrograph. The chemical composition and oxidation state of thin films deposited on glass were established from x-ray photoemission spectroscopy. The ability of a fabricated device deposited with the antireflection layer in converting photon energy to electrical energy was studied using a solar simulator under 1 sun condition. The ability to collect charge carriers of the anti-reflection coated device as a function of wavelength was also studied using quantum efficiency measurement.

1. Introduction

In recent times, transition metal oxide (TMO) thin films have gained immense interest among researchers due to their superior optical and electrical properties [1]. TMOs offer themselves as excellent candidates for electrical and optoelectric applications due to the wide range of work function values around 3–7 eV and noticeable p- or n-type semiconductivity [2, 3]. The wide range of work functions in TMO enables them for using as an antireflection coating (ARC) on photovoltaic devices to improve photon to electron conversion (PEC) efficiency [4]. The ARCs are characterized by broad bandgap along with wide optical transmission ranging from700 to 1000 nm, and surface roughness [5]. Hence, ARC's developed in nanometer thickness can enhance the PEC efficiency of solar cells by increasing light trapping in the active region [6].

Nanostructured TMOs like ZnO, MgO, Al_2O_3 thin films offer exciting optical and electrical behavior when deposited in nano-level thickness [7–9]. Due to surface inhomogeneities and limited lattice periodicity, the TMOs at nanometer thickness exhibit good optical transparency, along with an appropriate refractive index [10]. Thus, they readily respond to any physical changes, which greatly affect the optical and surface conductivity of the nanostructures. The TMOs with inhomogeneous microstructure, when deposited on a photovoltaic device, creates a textured surface and thereby traps photons of light, leading to a broadband suppression in reflection. The TMO used as ARC are wavelength sensitive and reduce the reflection of incident radiation due to interference [11].

Among them, ZnO is an attractive material with superior dielectric behavior in the nanometer range and also used as transparent conducting oxide when doped with a small quantity of Al_2O_3 [12]. However, both ZnO and Al_2O_3 are also used as ARCs due to their better electrical and optical behavior including good optical

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Influence of A-site substitution on dielectric and impedance behavior of Mn_3O_4 spinels

Nayana Acharya and Raghavendra Sagar

Depatment of Physics, Mangalore Institute of technology and Engineering Badaga Mijar, Moodbidri, Dakshina Kannada, Karnataka, India

ABSTRACT

In this paper, we report the influence of A-site substitution on dielectric and electrical behavior of Mn_3O_4 based modified spinels at room temperature. All the three spinels substituted with Mn, Zn and Co at A-site showed slight decrease in relative permittivity (ε') and dissipation factor ($\tan\delta$) in the studied frequency range of 40 Hz to 8 MHz. However, the influence of A-site substitution was noticeable because of it dominant influence on relative permittivity and dissipation factor over pure Mn_3O_4 spinel. The relative permittivity increased from $\sim$ 16 to 95 after substitution of Zn in A-site whereas the substitution of Co increased the magnitude upto 40. Similar trend was observed with tan δ measurement after A-site substitution. The frequency dependent impedance measurement revealed the better conducting behavior of pure and modified spinels because of its low impedance range and better frequency dependent ac-conductivity.

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Substitution; permittivity; dielectric loss; impedance analysis; electric modulus; ac-conductivity

1. Introduction

Spinels are classes of functional ceramic materials with AB_2O_4 structure either in cubic or tetragonal form of crystalline structure [1]. These spinels have a special ability to hold both divalent and trivalent cations, separated by oxygen positional parameter either in A or B site of spinels. In spinels, normally cation occupies 1/8 of the tetrahedral site and 1/2 of octahedral site whereas oxygen ions occupy at face centered position in each cell within the one complete AB_2O_4 unit cell comprising total of 32 oxygen ions [2].

In general, the conduction mechanism in spinels is dominant by hopping mechanism where electrons hop between the cation sites [3]. The presence of multivalent cations within the spinel unit cell facilitates the hopping and thereby contributes to electrical conductivity. However, some of aluminum based spinels exhibit low electrical conductivity because of uniquely trivalent and strong octahedral site preference energy [4]. On the contrary, manganate (Mn_3O_4) spinel compounds have superior electrical conductivities because of multiple valence states. Normally, manganese is stable as Mn^{2+}, Mn^{3+} and Mn^{4+}. On tetrahedral (A) sites, Mn^{2+} is dominant while on octahedral sites Mn^{3+}

CONTACT Raghavendra Sagar raghav_sagar@rediffmail.com
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The significant role of molecular dipole arrangements on the second and third-order nonlinear optical properties of a furan based chalcone

S. Satheeshchandra [a], Anthoni Praveen Menezes [b,*], H.P. Sarveshwara [b], A. Jayarama [c]

[a] Department of Physics, S.D.M College (Autonomous), Ujire, 574240, India
[b] Department of Physics, Mangalore Institute of Technology & Engineering (MITE), Moodabidri, 574225, India
[c] Department of Physics, Alva's Institute of Engineering & Technology, Shobhavana Campus, Mijar, Moodabidri, 574225, India

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Hirshfeld surface analysis

ABSTRACT

In this article, we report an experimental investigation on second and third-order nonlinear optical (NLO) properties of an efficient chalcone material 1-(5-methyl furan-2-yl)-3-(4-nitrophenyl) prop-2-en-1-one (MFNP) along with other characterization techniques. The synthesized material is confirmed through FT-IR and FT-Raman spectroscopic techniques. Single-crystal XRD study showed that the crystal belongs to the triclinic crystal system crystallizing in the P1 space group which is a non-centrosymmetric crystal form. From UV-VIS-NIR spectroscopy, the crystals were found to possess less absorbent in the visible region. Furthermore, the crystal exhibits excellent thermal stability up to 136 °C. The intermolecular interactions in the crystal were identified by obtaining the Hirshfeld surface and the related 2D finger plots. The second harmonic generation (SHG) efficiency of MFNP is three times the standard KDP crystals. Using a continuous-wave laser beam z scan experiment was performed and the "nonlinear refractive index (n_2)", "third-order nonlinear absorption coefficient (β)" and "second-order molecular hyperpolarizability(γ_h)" were calculated for MFNP. The estimated threshold value for optical limiting was found to be 1.85 kJ/cm^2. The excellent experimental results show that MFNP is a very useful material especially in the field of optical power limiting applications.

1. Introduction

Organic nonlinear optical (NLO) materials have attracted much attention in recent times due to their ease of synthesis, manipulation of molecular structure and large NLO responses which makes them suitable for various technological applications such as optical computing, optical data storage, optical limiting, frequency modulation, electro-optic devices, etc [1]. Among the different types of organic NLO materials subjected to investigation, chalcones have proved to be potential candidates for device applications as these materials exhibit a high degree of nonlinearity. A chalcone molecule consists of two phenyl rings interconnected by a conjugation bridge [2]. The electronic delocalization in the chalcone molecule can be altered to the highest degree by substituting suitable electron donor and/or acceptor groups at the end of this highly polarizable conjugated bridge. This structural modification will help to establish noncentrosymmetric crystal structures that are considered necessary for the second harmonic generation (SHG) [3]. In addition to this, the replacement of the benzene ring at the benzoyl arm of the chalcone by pyridine ring or thiophene ring has proved to be a wise move in altering the electronic delocalization and thus improving the second and third-order optical nonlinear response of these molecules [4–7]. Among these, several molecules with thiophene ring at the benzoyl arm crystallized in centrosymmetric crystal form and hence did not show any second-order nonlinearity [6–8]. It is well understood that the strength of the electron donor groups at the end of the conjugated bridge plays an important role in the formation of enantiomorphic crystal structures. Another crucial factor in increasing the optical nonlinearity of the chalcone molecules is a change in direction of charge transfer through the molecule [9,10]. Further, Satheeshchandra et al. reported a furan based bromo substituted chalcone, BBP with good SHG response of 2.03 times that of KDP with considerably good third-order nonlinearity [11] whereas the thiophene based bromo and nitro substituted chalcones, 2AT4B and 2AT3N did not show any SHG [8]. Considering the above facts and since furan is a sturdy electron donor than thiophene [12], a furan based chalcone is designed with a nitro group placed at the para position of the phenylene moiety. To increase the conjugation length and to increase the electron-donating strength of furan, a methyl group is attached to the furan ring. This strategy forms a molecule with

* Corresponding author.
E-mail address: mapraveen.80@gmail.com (A.P. Menezes).

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Investigation on structural, optical and electrical properties of Nd doped titania films and application of optical model

Akshayakumar Kompa [a], Chaitra U [b], Dhananjaya Kekuda [a], Mohan Rao K [a,*]

[a] Department of Physics, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, 576104, India
[b] Department of Physics, Mangalore Institute of Technology and Engineering, Moodabidri, India

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ABSTRACT

The effect of dopant concentration and temperature on the structural, optical and electrical properties of TiO_2 (Titania) thin films deposited through sol-gel spin coating was investigated. The X-Ray Diffractometer was used for phase analysis, UV–Vis spectrometer and Ellipsometer techniques were used for the optical measurements and Hall effect was used for the electrical characterization. Annealing temperature and dopant concentration were chosen as the parameters in the present study. The optical band gap marginally increased from 3.40 eV to 3.43 eV with increase in dopant concentration for the films annealed at 350 °C. The increasing trend was also observed for the films annealed at 450 °C with the optical band gap in the range 3.34 eV–3.39 eV. Using ellipsometric measurement, thickness and optical constants were obtained and we compared the refractive index values with those obtained from PARAV software. For Nd doped films, a single oscillator model was tested by using the refractive index values from ellipsometric measurement. The carrier density and plasma frequency were calculated using the Wemple Di Domenico (W-D) model. The electrical properties indicate decreased resistivity from 10^3 Ωcm to 10^1 Ωcm and increased carrier density from 10^{15} cm^{-3} to 10^{17} cm^{-3} with increase in annealing temperature. Similarly, with increase in dopant concentration at a given annealing temperature, we have observed a decreased resistivity compared to the prestine samples. However, the carrier density increased marginally with increase in dopant concentration.

1. Introduction

One of the most important properties of the Titania (TiO_2) is the optical properties at nano level and can be identified using different spectroscopic techniques. The optical property plays a vital role in major application like photocatalytic activity. Due to their nano-scale structure, a number of factors such as volume, shape, surface functionality, doping and interactions with other materials are strongly influenced [1]. Among the various transition metal oxides, Titania is most effective photocatalyst due to its wide indirect band gap nature with anatase phase [2–4]. Titania has also been extensively used in applications such as optical coatings, gas sensor, waveguides, biomedical devices, capacitors, transmitters and memristors [5–7]. These are all realised because of the properties like high transparency, chemical stability, large energy gap, high dielectric constant and refractive index [8–10]. Moreover, it's a cost effective, non-toxic material that possess good electrical properties and photo stability [11]. The wide band gap of this material makes it valuable in visible region for phototcatalytic application. The bandgap of titania (~3.4 eV) can be further enhanced through doping Nd. And the large bandgap of doped titania introduces various energy levels within the bandgap making it valuable in UV, visible or infrared (IR) region for photocatalytic application depending on the energy transfer mechanism involved.

Now a days rare earth doped metal oxides have gained more attention due to their enhanced optical properties from UV to IR region [12]. The metal oxide doped with rare earth is found to exhibit new and interesting properties. The optical properties of most of the rare earth doped oxides fall in visible and near infrared (IR) region, which is useful for applications like optoelectronics and photovoltaics [13]. For such purposes rare earth elements are more effective as dopant. Doping these elements with metal oxides such as titania enhances the photon activity of the material suitable for optoelectronic applications. Generally lanthanides are most effective due to their partially filled 4f electronic orbits and excess number of energy levels [11,14,15]. This property cause shift in absorption edge towards visible region and increased oxygen vacancies [16–18]. Furthermore, these will aid to capture electrons and

* Corresponding author.
E-mail address: kmohan.rao@manipal.edu (M. Rao K).

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Corrosion inhibition of zinc in 0.1 M hydrochloric acid medium with clotrimazole: Experimental, theoretical and quantum studies

A.M. Guruprasad[a,b], H.P. Sachin[b,*], G.A. Swetha[b,c], B.M. Prasanna[d]

[a] Department of Chemistry, Mangalore Institute of Technology and Engineering, Moodbidri, Mangalore-574225, and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, India
[b] Department of Chemistry, Jawaharlal Nehru National College of Engineering (JNNCE), Shivamogga-577204, and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, India
[c] Department of Chemistry, BMS Institute of Technology and Management, Avalahalli, Bangalore-560064, and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, India
[d] Department of Chemistry, Jain Institute of Technology, Davanagere-577003, and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, India

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ABSTRACT

Clotrimazole an antifungal drug was investigated for its corrosion inhibition action on zinc metal in 0.1 M HCl solution. Corrosion rate was determined by weight loss, potentiodynamic polarization and impedance spectroscopic techniques. Electrochemical methods (EIS and polarization) have reported inhibition efficiency of up to 90% for 500 ppm concentration of clotrimazole. Data obtained from both chemical and electrochemical studies showed that the corrosion rate of Zn decreased with increase in inhibitor concentration and also with temperature. Tafel polarization measurements showed that clotrimazole acts as mixed type of corrosion inhibitor and its adsorption on the zinc surface obeys Langmuir isotherm. Thermodynamic activation and quantum chemical parameters were calculated and discussed to describe the mechanism of adsorption. These results were supported by FTIR spectral study of corrosion product formed on the zinc surface in the presence of clotrimazole. Contact angle measurements show increased hydrophobicity of zinc surface, while SEM images of zinc surface confirmed considerable decrease of surface inhomogenities in the presence of clotrimazole.

1. Introduction

Destruction or deterioration of a metal caused by the surrounding environment is called as corrosion. Among non ferrous metals zinc is one of the important metal used for various industrial applications. Corrosion of zinc is affected by both alkaline and acid solution and it is more severe in solution having pH lower than 6.0 and higher than 12.5, while within this range the corrosion is very slow [1–3]. Industrial processes involve the extensive use of acids for different purposes like pickling, descaling, acid cleaning and so forth. Because of this zinc metal will undergo rapid corrosion.

The use of inhibitor is one of the widely used effective techniques in humid conditions to counter the loss of metal from its surface. Inhibitors are organic or inorganic compounds which when added to corrosive environment of metal, will either chemically react with the metal surface and forms a barrier or physically cover the metal surface by adsorption. It has been observed that adsorption depends mainly on the electronic structure of the molecule as well as the surface morphology of the metal [4]. It has been shown that organic compounds contain heteroatoms with high electron density, such as phosphorus, nitrogen, sulphur, and oxygen as well as those containing multiple bonds which are considered as adsorption centres, are effective as corrosion inhibitor [5–7]. Most of the organic inhibitors are expensive, toxic and have negative effect on the environment; these properties restrict its use to inhibit the metal corrosion [8]. Therefore the use environmentally safe and non toxic corrosion inhibitor to control the corrosion of metal is the need of the present day.

Extensive studies have been made over the years in the field of corrosion, which has led to consider drugs as inhibitors [9–15]. Several drugs like ziprasidone [16], erythromycin [17], ketosulfone [18], guaifenesin [19], floctafenine [20], atenolol [21] were reported as good corrosion inhibitors for zinc surface in acid corrosive medium. A few antifungal drugs like fluconazole [22–24], isoconazole, itraconazole, ketoconazole [24], clotrimazole [24–26], had been reported as corrosion inhibitors on mild steel and aluminium metal surface. But none of them have been tested for corrosion of zinc metal surface. This made us to test clotrimazole as corrosion inhibitor for zinc metal surface. The work carried out by Suraj B Ade et al. [24] and I.B. Obot et al. [25,26]

* Corresponding author.
E-mail address: drhps@jnnce.ac.in (H.P. Sachin).

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A review on mechanical and wear properties of ASTM a 494 M grade nickel-based alloy metal matrix composites

J. Kumaraswamy [a,*], Vijaya Kumar [b], G. Purushotham [c]

[a] Department of Mechanical Engineering, R. L. Jalappa Institute of Technology, Doddaballapur-561203 and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, India
[b] Department of Mechanical Engineering, UBDT College of Engineering, Davangere, and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka India
[c] Department of Aeronautical Engineering, Mangalore Institute of Technology & Engineering, Moodbidri, and Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, India

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ABSTRACT

The paper explains the mechanical lead and wears the properties of composites made from the cross-section of Nickel composite metal using the common shape. Nickel and nickel-containing base composites are used as critical and important materials in a broad variety of current applications due to their wonderful properties, such as exceptional mechanical strength, advanced mix safety, and complex process control. As a result, these materials had a steadily increasing enthusiasm for exhibiting predominance in different applications in their mechanical and tribological properties. Improving these more exceptional materials with improved workmanship for mechanical and tribological applications has led experts to develop new and innovative materials from the hypothetical processes to be developed. Product lattices composites have an advantage over the end, because they are particularly suitable for applications requiring outstanding stability at high temperatures, unrivaled basics, dimensional protection and light weight. This composite material, in the same way, offers a mix of impenetrable disintegration, heat exhaustion, heat staggering, quality, robustness, metallurgical quality, workability, weldability and, in addition to its ability to withstand a wide range of conditions of Extraordinary work, including high temperatures, is of similar concern to creeping material. Several professionals have shown that strengths such as silicone oxides, graphene, aluminum particles; silicon carbide, tungsten, graphite, etc. particles, without a very noticeable stretch, are joined together in a nickel mixture organized for the progression of the compounds. Nickel and nickel blends of world class use are widely used in steel, marine, avionics, watches, cars, improvements, PCs, etc.

Selection and peer-review under responsibility of the scientific committee of the International Conference on Newer Trends and Innovation in Mechanical Engineering: Materials Science.

1. Introduction

Some of our cutting-edge developments need materials with odd mixtures of properties that cannot be met with metal, ceramic, and polymeric material combinations. This applies in particular to the materials required for aviation, submerged, and transport applications. There is a pattern of expansion towards utilization to achieve better execution in material design. The sought-after expansion, with minimal effort, of lightweight, high-quality, solid, high-quality, and solid materials has led to the improvement of composites, which have different focal points over solid materials and traditional amalgams. Composite materials are characterized as perceptible mixtures at the level of non-solvent components with at least two unmistakable parts [1–5]. One of the materials that guarantees the association is known as the network and the other that confers obstruction is known as the support. For the most part, fortification is presented as particles, short strands, or long strands. By consolidating different materials, it is conceivable to build a different material with unmatched properties. The mixture of the constituent materials is determined by the specific application proposed and the relative relevance for a number of factors, such as protection against erosion, uncompromising nature, weight, exhaustion, and warm expansion. An examination work package is currently underway at the international outreach of Metal Lattice Composite (MMC) to improve security against

* Corresponding author.
E-mail address: kumaraswamyj1985@gmail.com (J. Kumaraswamy).

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Utilization of Agriculture Waste Embedded Composite Wall Panels as Alternative Building Materials: A Concept of Lightweight Structures

B S Keerthi Gowda, G. L. Eadswara Prasad, R. Velmurugan

Abstract

Engineered way of disposal of agriculture wastes needs skilled laborers and high-cost machinery for its treatment. Performing these activities is always an economic burden on agriculture practitioners. This is one reason that the young generation are less oriented towards agriculture firm. Less and delayed income growth compared to commercial industry economic growth is one of the other reasons. The advantageous way of improving the economic status of farmers is by providing value-added prices to their crops and agriculture bi-product wastes. In the present study, agriculture wastes like sisal/coir fibers are utilized as reinforcement in polymer matrix composite panels. These are proposed to utilize alternative building materials. This study clarifies that there will be noticeable weight loss in buildings which leads to the development of lightweight structures. Economy wise, mass housing constructions by adopting the present proposed technique achieve fast construction and less budget.

Full Text:

PDF

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Taxonomy of DDoS Attacks and Performance of DDoS Attack Detection Approaches

Ravinarayanan B[1], Dr. Nagesh H. R[2]

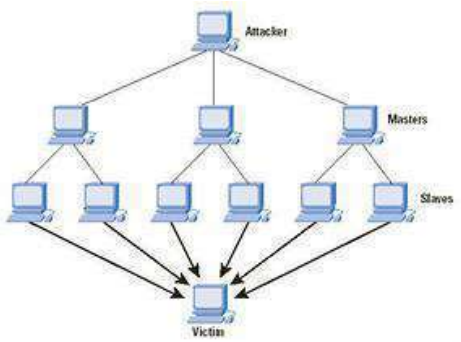
[1] Research Scholar, VTU RC, MITE, Moodabidri, Karnataka, India
[2] Professor and Head, Dept. of ISE, AJIET, Mangalore, Karnataka, India
Email: [1]ravinarayanabaje@gmail.com, [2]nageshhrcs@rediffmail.com

Abstract— *Distributed Denial of Service (DDoS)attacks are the predominant security threat faced by the Internet user, that causes bandwidth depletion and exhausting the target's resource. The development of new processing technologies has helped the attackers to produce large scale powerful DDoS attacks. There different attack detection methods which are developed using various techniques. In spite of the availability different attack detection methods the existing literature reports shows that attack increases and it leads to economic losses. This paper presents the taxonomy of DDoS attack and different DDoS defence strategies proposed by researchers. Finally the paper presents the performance metrics of various methods used in the detection of DDoS attack.*

Keywords--- *DDoS, Machine Learning, Support Vector Machine, Long Short-Term Memory, Recurrent Neural Network, Genetic Algorithm*

I. INTRODUCTION

DDoS attack is an attempt of malicious user to deny the service to the legitimate users by band width depletion and exhausting the target's resources. Globally DDoS attack is a severe problem among the internet users. The attackers identify vulnerability computers connected to the internet and uses them as Bots or Zombies. The attacker creates a network called Botnets of Bots or Zombies to launch DDoS attack. The Zombies in the Botnet unknowingly participate in the attack. The cumulative traffic of zombies exhausts the resources. Low-rate DDoS attacks are disturbing and tougher to interpretation because the traffic appears to be normal for the detecting system employed for detecting the attack [1]. High-rate DDoS attacks are quickly predictable with the principal detection approaches. Majority of the DDoS attack seen nowadays are flooding attacks. The attacker identifies the vulnerabilities in the operating system, protocols and applications to launch the flooding attack against the target system. The model of the DDoS attack is shown in Fig. 1.



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An Approach to Download Data from the Cloud Efficiently Through Multiple Parallel Links by Applying Divide and Conquer Technique

D.R.Annappa Swamy [1], M.R.Rashmi [2] , T. Shreekumar [3]

[1,3] Faculty in Computer Science and Engineering
[2] Faculty in Mathematics
[1,2,3] Mangalore Institute of Technology and Engineering , Mangalore, Karnataka, India
annappaswamy@mite.ac.in , rashmi@mite.ac.in , shreekumart@gmail.com

***Abstract*—** Web innovation and the utilization of Cloud computing is expanding and Number of mobile users also increasing exponentially. The Internet is growing with an exceptionally good performance with new technologies. In spite of the fact that the data download rate is relatively high nowadays it is additionally possible to enhance the performance of data or file download by sharing the work among number of clients. In this paper we address the file transfer from web to client with an approach of sharing the file transfer in a divide and conquer fashion. As the cell phones are picking up prevalence, all the versatile clients endeavor to download enormous records through their cell phones because of good web network. Downloading is time consuming when a single device is used to download a bigger size file, one may not finish the process with the mentioned possibilities. Even if we have additional resources like other idle mobile devices and additional Internet connections, it is still unused most of the times. To fasten the downloading speed, shared we propose a novel shared download manager in this work. To download a Larger file instead of downloading it in a single device, the proposed method splits the file into more parts and these parts can be downloaded in parallel using the available resources then the can be merged into a single file .

Key words : Cloud, WEB, URL.

I. INTRODUCTION

In internet each and every file will be stored on separate servers where each server has a specific IP address. These IP addresses will be represented by domain name which is called as URL. Each file can be located by specific URL called download URL. So, in order to download a file, we need to enter the download URL. While we download a file from the URL, it will be stored in a single system and it will use only one internet connection. So, this traditional method will not make use of the idle resources which increases the time for downloading that file eventually it will not take much time if additional resources are used [1].

A single person doing an work is always time consuming but doing the same work with more than one person in a distributed manner will always be recommended and will reduce the time taken to complete the work. For example, the work is to move documents from one shelf to another shelf. Let us consider if one person does this work which increases the time and also the workload. If the same work is carried out by three people will definitely reduce the time by three times faster than that is being taken by a single person. This distribution concept is used in the proposed work.

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Application Of Robust Engineering Approach For Dc Motor Controller Design

Vinayambika S. Bhat[1], Shreeranga Bhat[2*], Gijo E. V.[3]

[1]*Department of Electronics and Communication Engineering, Mangalore Institute of Technology and Engineering, Moodabidri - 574225, India*
vinayambika09@gmail.com
[2*]*Department of Mechanical Engineering, St Joseph Engineering College, Mangaluru - 575028, India*
shreeranga1981@gmail.com
[3]*SQC & OR Unit, Indian Statistical Institute, Bengaluru - 560059, India*
gijoev@gmail.com

Abstract

This article presents the application of robust engineering to the design of a controller for DC motor application. The objective of the research is to control the speed of the DC motor using robust engineering approach. The Taguchi's Robust Engineering approach is used to design controllers for DC motors. The initial range of the controller is identified using the Internal Model Control approach. Both, noise and control parameters, are accommodated in the experimentation. The optimal value of the Proportional-Integral-Derivative (PID) controller derived from the Taguchi Robust Engineering resulted in faster settling time. The Internal Model Control (IMC) based PID design approach and the Taguchi- based PID design approach for controllers are compared for both nominal plant models along with ±10% uncertainty in all the process parameters. The results prove the effectiveness of the robust engineering to design a DC motor controller using Taguchi method. Eventually, a regression equation is proposed based on the results of the study to facilitate academicians and researchers to delve deeper in the field.

Keywords: Internal Model Control, PID Control, DC Motor, Taguchi Robust Engineering, Settling Time

1. INTRODUCTION

The DC motor is popular in industry control application, because of some of its good characteristics such as high starting torque, better performance, linear control, etc. [1-2]. It is also a commonly used machine in electrical systems in homes, vehicles, and trains, and in process control [3]. An effective control of the DC motor is necessary to achieve a stable and satisfactory performance. Several conventional and adaptive control algorithms are presented in literature [4]. Even though several advanced control strategies have been proposed in recent articles, the Proportional-Integral-Derivative (PID) is used by 90% of the process control industry [5]. Properties such as easy tuning, robustness, and simplicity are the major characteristics, which attracts most of the process industries in adopting the conventional PID controller [6-7].

Robust design is the need of the hour, not only to reduce product failures, but also to reduce the overall product development cycle time. To ensure high reliability of the product, robust engineering demands consideration of both controllable and noise parameters of the product known as robust parameter design [8]. Taguchi's robust engineering is one such methodology, which addresses the requirement by robust optimization of the parameters [9-10]. Also, it is one of the best suited methodology for accommodating devise sensitivity through simulation [11]. Thus, the work adopts Taguchi's robust engineering methodology including noise parameters and delineates its application in optimizing the PID parameters for a robust performance. Thus, the focus of the work is to control the speed of the DC motor using the robust engineering approach. The article presents academic literature in the next section, followed by research methodology, research results, and conclusion.

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Adaptive Wireless Charging System for Electric Vehicles

Sathisha, Ninadha Venugopal, Padma Prasada

Abstract

Fossil fuels are finite resource and India has plans to make a major shift to electric vehicles by 2030 to beat pollution. One of the promising replacement to the conventional transportation system is the expansion of electric vehicles which are affordable costing and autonomous capabilities. Major challenges expected in this mode of transportation is battery charging, it is inconvenient to use charger and wire. The main goal of the proposed work is to develop a novel charging system using inductive wireless power transfer technology. This method is suitable for the stationary charging of electric vehicles with reduced loss. This proposed method is having high potential alternative attributes to charge electric vehicles. Wireless power delivery and efficiencies are affected by the spacing factors between primary and secondary coils. This approach ensures the maximum power delivery by designing an alignment system, which assists the driver in parking the vehicle without any alignment errors.

Index Terms: *Autonomous, Electric Vehicles, Wireless Charging System, Wireless Power Transfer*

I. INTRODUCTION

Multiple number of electric motors are deployed in Electric Vehicles (EVs) for generating propulsion. On - board batteries, solar panels or an electric generators are used to supply necessary power to an EVs. In the mid 19th century EVs are emerged as one of the promising mode of transportation, with many advantages over conventional mode of transportation systems. For 100s of years modern IC engines are presiding method of proving required thrust in conventional vehicles and electric energy was being used only in trains, small scale vehicles. With the technological advancement during the early 21st century, new era has begun looking for renewable energy and EVs saw an important revival. There are 3 classes of Electric vehicles, out of those Battery Electric Vehicle (BEV) is purely electric vehicle where electrical energy is used for propulsion. BEVs store electricity on-board using battery packs of higher capacity, it is used to supply electricity to all the devices and electric motors. Electric charging outlets are to be used for charging the on-board batteries. Maintenance of Plug-in HEV(PHEV)s are cheaper than conventional petrol or diesel-powered vehicles. In comparison with the gasoline vehicles, EVs demand minimal routine maintenance. PHEVs are similar to HEVs except the use of electricity for propulsion instead of fuel. Higher battery capacities are provided in PHEVs, equipped with a compact IC engine. PHEVs can be driven to recharge outlets for re-fueling. External electrical sources like wall sockets are used to recharge a plug-in Electric Vehicle [1].

II. METHODOLOGY

A. Literature Review

Authors over viewed on static and dynamic techniques of charging the electrical vehicle wirelessly [1]. In [3], the author explains about the various technologies to charge the electric vehicle with the help of inductive coupling. A cost effective prototype model of WPT system using air coupling method is presented by the authors in [4]. The system proposed consists of two copper wire coils, arranged in series on the same axis. One of the coil can be placed under the road surface, while the receiver coil in

Sathisha, Dept of ECE, MITE, Moodbidri, India.
Ninadha Venugopal, Dept of ECE, MITE, Moodbidri, India.
Padma Prasada, Dept of ECE, MITE, Moodbidri, India.

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PRODUCTION ENHANCEMENT AND SUSTAINMENT THROUGH LEAN SIX SIGMA STRATEGY

SHREERANGA BHAT[1], GIJO E. V[2] & VINAYAMBIKA S. BHAT[3]

[1]*Department of Mechanical Engineering, St Joseph Engineering College, Mangaluru, Karnataka, India*

[2]*SQC & OR Unit, Indian Statistical Institute, Bengaluru, India*

[3]*Department of Electronics and Communication Engineering, Mangalore Institute of Technology and Engineering, Moodabidri, Karnataka, India*

ABSTRACT

The purpose of this article is to ascertain Key Performance Indicators (KPI) and Critical Success Factors (CSFs) to enhance and sustain production in a Small Scale Industry through the Lean Six Sigma (LSS) Strategy. The paper delineates a case-study in a step-by-step manner based on LSS strategy with minimum financial investments and optimum utilization of the available resources. The Define-Measure-Analyze-Improve-Control (DMAIC)methodology is adopted bythe research to deploy the LSS strategy. Statistical software MINITAB is used to interpret the result. The research will help to enhance the baseline status from 50,000 to 10,000 parts per million opportunities. This will subsequently assist in the reduction of wastes and enhance productivity. The rework of the gap between the leaf plate assembly, which was of major concern to the industry is reduced. The project is limited because the findings are based on a single case study and cannot be generalized. But, the methodology, lessons learned, and managerial inferences can be extended to similar industries. The research unearths that even novice users and industries can successfully deploy LSS methodology through a streamlined approach and reap the rewards in time.

KEYWORDS: Lean Six Sigma, Small Scale Industry, Production, Sustainment, DMAIC

Original Article

1. INTRODUCTION

India is a developing country, even though it is facing economic turmoil. Moreover, the manufacturing sector is one of the major contributors to the development of the Indian economy. In the last two decades, it was reported that the manufacturing sector contributed nearly 25 percent to the Indian GDP(Mehta and Rajan, 2017). Having said that however the manufacturing sector is facing challenges due to the open trade policy and the start-up policy. The manufacturing sector is also hindered with challenges in productivity, performance, cost, continuous improvement, and sustainment(Gijo et al., 2014).In addition, it is confronting inflation, fuel cost, deficit budget, and depreciation of face value of the Indian currency. Research reports that it is high time and the right time to reinforce the system of Indian Small Scale Industries (SSIs) as they are the backbone of the country's economy(Singh et al., 2010). Also, it was reported that quality product is of concern among the SSIs in India, which restricts them from entering the global market and from increasing their market share. Moreover, globally it has been as certained and culminated that quality products at an affordable price is one of the major performance indicators to be competitive in the market (Mittal et al., 2018).

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The Growth of Semiconductor thin layer on Silicon Substrate Using Sol-Gel Method

[1]Ganesh V N , [2]Dr. Shantharama Rai C, [3]Dr. Jayarama A

[1] Sr. Asst. Prof., Department of ECE, MITE, Moodbidri, Affiliated to VTU, Belagavi, Karnataka, INDIA&
Research scholar, CEC, Bantwal, Affiliated to VTU, Belagavi,Karnataka, INDIA

[2] Principal, AJIET, Mangalore, Affiliated to VTU, Belagavi,Karnataka, INDIA

[3] Prof. Department of Physics, AIET, Moodbidri, Affiliated to VTU, Belagavi,Karnataka, INDIA

[1] ganesh@mite.ac.in, [2] csraicec@gmail.com, [3] jrmarasalike@gmail.com

Abstract

The semiconductor galliumnitride (GaN) thin film was efficiently grown on the Sisubstrate with sol-gel method. The gel is prepared from gallium-citrate-amine crystals. These crystals are formed from a solution contains Ga +3 ions and citricacid(CA). The gel is placed on the substrate and then the substrate. The gel layers obtained are then rotated at a rate of 1100rpm programmable furnace. Deposition temperatures varied at 800°C, 900°C, and respectively 1000°C in a nitrogen gas environment within 2 hours. The results were characterized by XRD measurement. Surface morphology and cross-section of the film observed by SEM imaging, and film composition was determined by EDX characterization. Characterization Result showed that all GaN thin films deposited on the silicon substrate had polycrystalline orientation. The crystal quality of the GaN film formed is influenced by the deposition temperature. Its observed that by increasing the deposition temperature can improve quality of deposited GaN film crystals.

Keywords: GaN thin-film, SiliconSubstrate, Spin-coating technique.

1. INTRODUCTION

Semiconductor GaN seems to be a material that has a wide energy band gap with direct transition structure (Eg=3.45eV at room-temperature). It has high mechanical strength, transport properties good electricity and a good fit in the heterostructure with InGaN and AlGaN make this nitride being the prominent candidate for a variety of applications. To date, the GaN layer isdeposited on top of Al_2O_3 substrate is anactive material which is very important for electronic and optoelectronic devices, like ultraviolet photodetectors, light emitting diodes and laser diodes that operate at wavelengths visible light, transistor devices, displays, data storage devices that have high mobility available to operate at high temperature, high frequency and high power [4,10]. Some researchers have successfully deposited a thin layer of GaN on top of various types of substrates such as Al_2O_3, 6H-SiC, ZnO, SiC, Si, and so on [2,5], using various deposition techniques, such as reactive radio-frequency (RF) sputtering, plasma assisted molecular beam epitaxy (PA-MBE),metal organic vapor phase epitaxy (MOVPE), metal organic chemical vapor deposition (MOCVD), plasma

Identifying the stabilising regions of PI controller based on frequency specifications for a lab scale distillation column

R. Janani

Department of Electronics and Instrumentation Engineering,
Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya,
Enathur, Kanchipuram-631561, Tamilnadu, India
Email: janurang@gmail.com

Vinayambika S. Bhat

Department of Electronics and Communication Engineering,
Mangalore Institute of Technology and Engineering,
Moodabidri-574225, Karnataka, India
Email: vinayambika09@gmail.com

Indiran Thirunavukkarasu* and V.I. George

Department of Instrumentation and Control Engineering,
Manipal Institute of Technology,
Manipal Academy of Higher Education,
Manipal-576104, Karnataka, India
Email: it.arasu@manipal.edu
Email: vi.george@manipal.edu
*Corresponding author

Abstract: The aim of the study is to design and implement decentralised PI controller for a lab scale distillation column based on the frequency specifications. Designing an effective PI controller for an MIMO process is a challenging task because of the loop interaction and system with dead time. In order to eliminate these interactions between the control loops, an ideal decoupling technique is implemented and first order plus dead time model is obtained for each decoupled subsystems. By plotting the boundary locus for each subsystems based on the desired gain and phase margin in (k_p, k_i) plane a wide range of PI values are obtained. Also, the performance measurement calculations were compared and tabulated for various values of k_p and k_i with the boundary locus. In this present research the pressure and temperature near the bottom of the column is considered. It is also shown that the system become unstable when the value of PI controller is selected outside the boundary locus.

Keywords: boundary locus; decentralised controller; gain margin; phase margin.

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Significance of injection pressure on the overall performance of common rail direct injection engine using dairy scum oil methyl esters

M. Nandeesh [a], C. R. Rajashekar[b], R. Harish kumar[c] and N. R. Banapurmath[d]

[a]Department of Mechanical Engineering, Sri Siddhartha Academy of Higher Education, Tumkur, India; [b]Department of Mechanical Engineering, MITE, Moodbidre, India; [c]Department of Mechanical Engineering, SSIT, Tumkur, India; [d]School of Mechanical Engineering, K.L.E. Technological University, Hubballi, India

ABSTRACT

The advantages of common rail direct injection engine, including more power, less noise and vibration, lower specific fuel consumption, precise injection timing and control over the mass of fuel injection, make the engine more popular and adoptable in all the transport vehicles by the automotive manufacturers across the world. The production and use of dairy products across the world is increasing rapidly and much of the scum obtained during the processing of dairy products is unused and discharged to atmosphere as a waste product which further leads to an adverse effect on the environment and grubby surroundings. The present study aims to use the dairy scum methyl esters in common rail direct injection engine for its adaptability and evaluate the engine performance in comparison with diesel fuel. Injection pressure is primarily the vital factor which persuades the performance of the engine, as the atomisation of the fuel depends on it. Hence, in the current study the injection pressure is augmented in the range 600–1000 bar by keeping the injection timing stable. The results revealed that the augmentation of pressure curved to raise the brake thermal efficiency and lessen the emissions.

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KEYWORDS
Dairy scum methyl esters; emissions; injection opening pressure; injection timing; brake thermal efficiency; atomisation

Nomenclature

BTE:	Brake thermal efficiency
DSOME:	Dairy scum oil methyl esters
CR:	Compression ratio
IT:	Injection timing
IP:	Injection opening pressure
CA:	Crank angle
HRR:	Heat release rate
ECU:	Electronic control unit
DSOME B20:	DSOME Biodiesel 20% by volume
CRDI:	Common rail direct injection
HC:	Hydrocarbons
CO:	Carbon monoxide
NOx:	Nitric oxide
BTDC:	Before top dead centre
$CO_{2:}$	Carbon dioxide
ppm:	Parts per million
HSU:	Hartridge smoke unit
N:	Revolutions per minute
W:	Load

1. Introduction

The biodiesel is thought to be significant as a substitute fuel for diesel engines and is essential nowadays as the conventional diesel reserves are limited in source and commercial users for various applications are increasing significantly. At the same time the government has imposed stringent environmental regulations to minimise the harmful pollutants. In this context, the researchers are concentrating on exploring the various properties, performance of the biodiesel obtained from different sources and their effect on the environment prior to wide adoption in practical applications.

Khan et al. (2018) established that biodiesel production can be accomplished by a single-step transesterification process from Pongamia pinnata, Jatropha curcas, Calophyllum inophyllum oil to meet the energy demands in the present situation and biodiesel is widely employed in diesel engines to face the problem of environmental pollution and limited sources of diesel fuel. The authors Jaikumar, Bhatti, and Srinivas (2019) explored that the compression ratio is the vital factor which persuades the overall performance of the engine, using biodiesel obtained from Niger seeds. The blend ratio B20 showed overall good performance compared to the diesel with regard to brake thermal efficiency (BTE), heat release rate, peak pressure, unburnt hydrocarbons and CO. Duda et al. (2018) employed biodiesel from swine lard and turkey lard oil in CRDI engines. The authors reported that higher injection pressure leads to an increase in specific fuel consumption than that of diesel. As a result a considerable drop in brake thermal efficiency (BTE), HC, CO and CO_2 were noticed, whereas NOx emission was found to be increasing.

Khandal et al. (2018) in their experiment used the nozzles with different diameter holes with Honge oil biodiesel by varying

CONTACT M. Nandeesh nandu_nidhi@rediffmail.com

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PAPER

Dry sliding wear characteristics of multi-walled carbon nanotubes reinforced Al-Si (LM6) alloy nanocomposites produced by powder metallurgy technique

Shivaramu H T[1], **Vignesh Nayak U**[2] **and Umashankar K S**[3]

[1] Research Scholar, K V G College of Engineering, Sullia and Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering, Moodbidri, D K—574225, Affiliated to V T U Belagavi, Karnataka, India
[2] Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering, Moodbidri, D K—574225, Affiliated to V T U Belagavi, Karnataka, India
[3] Department of Mechanical Engineering, K V G College of Engineering, Sullia, D K-574327, Affiliated to V T U Belagavi, Karnataka, India

E-mail: shivaramkvgce@gmail.com **and** shivaramu@mite.ac.in

Keywords: LM6 alloy, wear, nanocomposites, powder metallurgy (PM), multi-walled carbon nano tubes (MWCNTs)

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Abstract

The present work involved the production of Metal Matrix Composites (MMCs) of Aluminium Silicon (Al-Si) alloy reinforced with Multi Walled Carbon Nano Tubes (MWCNTs) using Powder Metallurgy (PM) process. MWCNTs with concentrations of 0, 0.25, 0.5, 0.75 and 1.0 wt% were used. Validation of dispersion nature, existence and chemically stable of MWCNTs carried out using Transmission Electron Microscope (TEM), X-ray Diffractometer (XRD) and Energy Dispersive Spectrum (EDS) for fabricated composites. Sliding wear investigations were investigated in accordance with the ASTM G99-95a standard. Test variables such as sliding distance, load and speed were examined. Under a given load with sliding distance, the wear rate was found to reduce by varying disc rotation speed between 250 to 750 rpm. The rate of wear is dropped suddenly with the increment in sliding distance from 500 m to 1000 m. However, for 1500 m sliding distance, the wear rate increased linearly for all nanocomposites. The reinforcement of 0.25 wt% and 0.5 wt% of MWCNTs shown lower wear resistance and further addition of 0.75 wt% MWCNTs shown enhanced wear resistance but the addition of reinforcement of above 0.75 wt% resulted in slightly higher wear rate. The wear resistance enhanced due to the excellent properties of reinforcement particles. The Scanning Electron Microscope (SEM) was used for identifying the kind of wear mechanism.

1. Introduction

In the present market, most of the production engineering sectors choose Aluminium [Al] alloys for light weight applications due to its lower density. These alloys are chemical resistant, better ductile and strengthened material than pure soft silver color Al. The automobile, aircraft and some other engineering segments have shown restraints to use of Al alloys due to its limited strength, rigidity, wear and friction resistance. Recently, Al and Al alloy-based composites, particularly Al nanocomposites were developed to accomplish the need for required mechanical properties, thermal performance, wear resistive, low denser, low energy consumption in manufacturing and ease to make any required component profile [1, 2]. Mechanical ball milling route improved particle refinement in Al-Si alloys. The Si substance enriched the mechanical properties in terms of lengthening the limits of solid solubility. This led to better uniform distribution causing higher strength in alloys. Milling and rolling were also found to dissolve Si elements effectively into Al. Currently, Carbon Nano Tubes (CNTs) are being explored as reinforcements to be added to Al alloys. CNTs have higher specific strength and stiffness properties. The collective techniques of particle refinement, alloying and MWCNTs reinforcement have been reported to offer strength coupled with ductility [3]. The literature reviewed shows that for effective distribution of CNTs in the Al matrix, a high energy mechanical ball milling fabrication technique is used. This method,

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RESEARCH ARTICLE

WILEY

Significance of the type of reinforcement on the physicomechanical behavior of short glass fiber and short carbon fiber-reinforced polypropylene composites

Sridhar Doddalli Rudrappa[1] | **Varadarajan Yellampalli Srinivasachar**[2]

[1]Department of Mechanical Engineering, Mangalore Institute of Technology & Engineering, Moodabidri, India

[2]Department of Industrial & Production Engineering, National Institute of Engineering, Mysuru, India

Correspondence
Sridhar Doddalli Rudrappa, Department of Mechanical Engineering, Mangalore Institute of Technology & Engineering, Moodabidri, Karnataka 574225, India.
Email: sridhardr4@gmail.com

In the present work, short glass fiber (SGF) and short carbon fiber (SCF)-reinforced polypropylene (PP) composites are fabricated using twin-screw extrusion and injection molding techniques. The SGF and SCF are reinforced as a single and hybrid reinforcement into the PP matrix with the same weight percentage (wt%) and the obtained composites are characterized for physicomechanical properties. It is observed that the tensile and flexural strength and modulus of elasticity of PP are improved by increasing the weight percent of reinforcement in the composite. The highest value is observed for composite with 30 wt% of SCF reinforcement; hybrid composite with 10 and 20 wt% of the mixture of SGF and SCF proves to outperform the other composites with the same weight percent of SGF and SCF added individually. The notched Izod impact strength of SGF + PP composite at 30 wt% is found to be the highest amongst all. Furthermore, the increased presence of SCF improved the tensile and flexural properties; however, it was not able to improve the impact strength significantly.

KEYWORDS

hybrid composites, mechanical properties, polypropylene, short carbon fiber, short glass fiber

1 | INTRODUCTION

Polypropylene (PP) is a semicrystalline engineering thermoplastic, widely used in automotive parts, home appliances, extruded profiles, packaging industry, construction, etc., due to its low cost, low density, easy processibility, and well-balanced mechanical, physical, and chemical properties.[1-14] However, its use is limited in many engineering applications where good mechanical and thermal properties are required, due to its low Young's Modulus, strength, and thermal conductivity.[2] In order to provide a cost-effective solution, research in the last decade has mainly focused on reinforcing the PP with short fibers to improve its mechanical and thermal properties. The hybridization of fibers in the polymer matrix can increase the mechanical properties of single fiber-reinforced composites and reduce its limitations in many engineering applications.[3] A number of researchers have investigated the effect of glass and carbon fiber (CF) reinforcement on the PP matrix. Unterweger et al[6] studied the characterization of CF surfaces and their impact on the mechanical

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Study on Fracture Toughness of Layered Structure for Fail Safe Design

MohanKUMAR[1,*] and NeelakanthaV. LONDE[2]
[1,2]*Department of Mechanical Engineering, Mangalore Institute of Technology & Engineering, VTU Belagavi, Karnataka, India*

Abstract-

The aim of the current work is to test the development of a failsafe design. The design consisted of dual layer structuredround bar fabricated by press fitting. Mode II fracture toughness was measured with circumferential notch test pieces subjected to shear force. Two sets of test pieces were prepared. The first set was made up of dual layered Al6061T6 alloy. The second set was made with Al6061 T6 alloy as outer layer and inner layer was made with AISI1045 steel. A rod of Al6061T6 alloy is also subjected to shear to determine fracture toughness. Fracture toughness values are calculated using modified Kienzler and Herrmann'sequation. The measuredfracture toughness values indicated an improvement of 18% in the case of Al6061T6 alloy dual layered structure and 33.33% in the case of AISI1045 steel inner layer and Al6061T6 alloyouter layer structure.

Keywords:Fracture toughness; Mode II fracture; layered structure; shear test.

1. Introduction

Fracture is the major failure mode in mechanical structures which lead to breaking down of components without any prior indication before the estimated safe working life. Many researchers have conducted extensive work on fracture mechanics to understand the phenomenon and developed many theories. But still many areas are left unexplored. Determination of fracture toughness is a significant approach to estimate the fracture strength of the materials. Researchers have established many ways to measure the fracture toughness of the materials. But these methods suffer a major problem that, they require very expensive equipment and accurate preparation of the specimens and require lot of time and cost. To overcome these problems many researchers have developed nonstandard methods to measure fracture toughness which are economical in terms of time and money, but achieved good approximation of the results. In most of the real life applications this approximate values are sufficient [1-6]. The fracture process consists of two phases, first steady state of crack growth which spans over the safe life of the component and the second unsteady fracture which usually occurs suddenly. There are well developed standard practices and specimen requirements to measure the fracture toughness are explained in ASTM E399 [4]. Kienzler and Hermann [7] developed a numerical approach to measure the Mode I fracture toughness using energy conservation in elementary beam theory and obtained the results very well matching with the results obtained by other standard methods. Ricci and Viola [8] developed the equations for all three modes of fracture toughness for a T-section beam with an edge crack and extended it for a rectangular cross section of the beam. According to this study, the extended equations of stress intensity factor for rectangular cross section of the beams subjected to shear is given by Equation (1).

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FRACTURE CHARACTERIZATION OF SISAL / BANANA HYBRID COMPOSITE REINFORCED POLYESTER COMPOSITES

PREMKUMAR NAIK, NEELAKANTHA V LONDHE, LAXMAN NAIK L, SREENIVAS S & GIRISH H N

Research Scholar, Department of Mechanical Engineering, AMC Engineering College, Bangalore, India

Research Scholar, Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering, Moodabidri, India

Research Scholar, Department of Mechanical Engineering, Malnad college of Engineering, Hassan, India

Research Scholar, Department of Mechanical Engineering, AMC Engineering College, Bangalore, India

Research Scholar, State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan, Hubei, PR China

ABSTRACT

In the study, fracture and behavior of water absorption of sisal/banana hybrid composite fiber reinforced composites is investigated. Composites laminates were fabricated by hand layup and vacuum bagging method. For water absorption behavior each laminate having resin mixture and 6 plies of fabrics to achieve 5 mm thickness as per designation by different layers. For fracture characterization behavior each laminate consists of 16 plies to achieve thickness of 10 mm. The preparation of specimen and analysis was done according to ASTM standards. Water absorption and fracture toughness tests on these laminates were carried out. It was absorbed that maximum water absorption characteristics found in LA laminates. Maximum fracture toughness found in LI laminates.

KEYWORDS*: *Banana and Sisal fabrics, Polyester Matrix Composites, NaOH solution

Original Article

1. INTRODUCTION

Now a day's natural fibers are familiar because of its advantages in terms of low price, low density, bio-degradable and easily processed. Premkumar naik *et al*. [1] investigated the areca fibers reinforced with phenol formaldehyde (PF) and concluded that composite plate of 300ml PF found tensile strength is maximum, 500ml PF found better moisture absorption resistance and 400ml PF found maximum bending stress. Laxman Naik *et al*. [2] studied the property of tensile strength of hybrid composite of sisal / glass fiber reinforced materials and concluded that, tensile strength of the only glass materials and hybrid of sisal / glass composites gives maximum strength compared with composites reinforced with sisal only. Premkumar naik *et al.* [3] studied the fracture & mechanical properties of hybrid of banana/sisal composite reinforced with polyester resin, he concluded that maximum tensile strength found in LD laminate and maximum fracture properties found in LG Laminates. Wong *et al* [4] worked on the fracture behavior of short bamboo fiber, highest fracture toughness was attained at 10mm/50 vol. % fiber composites and improved about 340 % compared to neat polyester. Avci and co worker [5] studied glass fiber reinforce concrete polyester by "Linear Elastic Fracture Mechanics (LEFM)". Specimen of "Single Edge Notch (SEN)" was applied and "Three Point Bending" test is loaded. In load displacement curve, confirm that raising both fiber content & resin

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EXPERIMENTAL INVESTIGATION ON THE MECHANICAL PROPERTIES OF HYBRID COMPOSITE LEAF SPRING

AVEEN K. P, VIKRANT KANNATH, DR. NEELAKANTHA V LONDE, GAGAN G AMIN

& IMAAD SALIM SHAIKH

Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering, Karnataka, India

ABSTRACT

Leaf springs are the oldest suspension components used in automotive sector. Most of the vehicle production company has expressed its interest in replacing steel leaf spring with that of composite leaf spring because of its high strength to weight ratio and good corrosion resistance properties. In this work, a Hybrid Composite Leaf Spring (HCLS) fabricated with alternate layers of carbon/glass/epoxy and 10% of flyash which were subjected to various mechanical tests. A HCLS is a bi-directional Carbon/Glass fiber reinforced polymer with flyash as a filler, fabricated with similar geometrical properties to that of the metal leaf steel spring using hand layup technique. A considerable reduction in weight was obtained in comparison to the steel spring. Hybrid composite material composed of Glass/Carbon/Epoxy/filler subjected to the load and found that HCLS had good strength and stiffness and inferior in weight.

KEYWORDS: Hybrid Composite Leaf Spring (HCLS), Glass Fibre, Carbon Fibre, Epoxy & Flyash

Original Article

INTRODUCTION

With a need to sustain natural resources and economize energy, reduction of weight is one of the fundamental areas into which the vehicle manufacturer focuses in the present situation. Most of the manufacturers uses carbon steel for leaf spring, replacing metal leaf with hybrid composite, which is an ideal step in weight reduction. The introduction of composite materials has made it possible to reduce the weight of the leaf spring without any reduction in the load-carrying capacity and stiffness [1]. The auto sector has shown keen interest in replacing the leaf springs of steel with composite made of Fibre Reinforced Polymer (FRP) composites, which possess lower modulus of elasticity, lower density and lighter in weight in comparison to steel [2,3]. The superior composites materials such as Graphite, Carbon, Kevlar, Glass, with appropriate resin are widely used as of their high specific strength and high specific modulus [4]. Complex mechanical characterization, high fabrication cost and difficulty in their rework and repair are some limitations of the composite materials [5]. Jeffery et.al [6] studied the behavior of static, fatigue of steel as well as composite multi leaf spring using the software of ANSYS V12. They found that leaf spring from composite has lower bending stress and higher fatigue than steel spring and also, they found E-glass/epoxy has better performance than vinyl ester. Metal matrix and carbon epoxy composites are used in automobile sector for manufacturing interior and exterior parts. The application of composite materials is ever growing in all segments. The increase in demand for vehicles with fuel efficiency and components that are lighter in weight are the major factors that increases the need of composite components in the automobile sector. M. Raghavedra et.al [7] conducted Modeling & Analysis of laminated composite leaf spring using FEA under the static load condition. K P Aveen et. al [8] compared the mechanical properties of composite material with flyash and Aluminium powder as a filler found composite material

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GREY BASED TAGUCHI METHOD TO OPTIMIZE MECHANICAL PROPERTIES OF SHORT GLASS FIBER AND SHORT CARBON FIBER REINFORCED POLYPROPYLENE COMPOSITES

SRIDHAR. D R[1]* & VARADARAJAN. Y S[2]

[1]*Department of Mechanical Engineering, Mangalore Institute of Technology & Engineering, Moodabidri, Karnataka, India*

[2]*Department of Industrial & Production Engineering, The National Institute of Engineering, Mysuru, Karnataka, India*

ABSTRACT

In the present investigation short glass fiber, (SGF) and short carbon fiber (SCF) reinforced Polypropylene (PP) composites were fabricated and characterized their mechanical properties. The experiments were designed according to Taguchi's (L9) orthogonal array to optimize the experimental runs. The grey-based Taguchi approach has been used for multiple mechanical performance optimization of composites. The analysis of variance (ANOVA) was applied to determine the significant parameter that affects the mechanical performance. The results indicated that the fiber weight fraction and reinforcement are the significant factors influencing the mechanical behavior of PP composites. However, the weight percent of the reinforcement is the most significant factor in deciding the mechanical behavior.

KEYWORDS: Polypropylene, Glass Fiber, Carbon Fiber, Taguchi Design & Grey Relational Analysis

Original Article

INTRODUCTION

Polypropylene (PP) is an engineering thermoplastic, extensively used in many applications such as automotive, extruded profiles, packaging industry, home appliances etc., due to its excellent mechanical, chemical, and physical properties [1-6, 7-14]. However, its use is only limited to low strength and temperature applications due to its low strength and thermal conductivity [2]. In the last decade, research is mainly focused on reinforcing PP with short fibers to improve its mechanical and thermal properties. The hybrid fiber reinforcement in polymer matrix can improve the mechanical properties and reduces its limitations in many engineering applications [3].

A number of researchers have investigated the effect of glass and carbon fiber reinforcement on PP matrix. Christoph Unterweger et al. [6] studied the characterization of carbon fiber surfaces and their impact on the mechanical properties of short carbon fiber reinforced polypropylene composites. He reported that fibersurface properties and coupling agent used in the composite have majoreffect on the fiber/matrix interaction, which improves the mechanical properties. Gamze Karsli et al. [7] investigated the effect of hybrid carbon nanotube/short glass fiber reinforcement on the properties of polypropylene composites. He found that the glass fiber and carbon nanotube reinforced hybrid composites showed better tensile strength and modulus values compared to only glass and carbon nanotube reinforced composites. Rezaei et al. [10] reported the effect of fiber length on thermomechanical properties of short carbon fiber (CF) reinforced polypropylene composites; the longer CFs showed better thermomechanical properties than shorter CFs in CF/PP composites. Fu et al. [11] studied tensile properties of short-glass-fiber- and short-carbon-fiber-reinforced polypropylene composites. He reported that mean glass and carbon fiber lengths decrease with increasing fiber volume fractions and the combined effect of fiber volume fraction and fiber length determines the final tensile properties of the composites. Aslan et al. (15) studied

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TWO PLANE MASS BALANCING OF ROTOR BY USING VIBRATION RESPONSE OF THE BEARINGS

MADHUSUDHAN. B[1], GANESH. B[2], G. RAGHAVENDRA SETTY[3], SWAROOP[4] & ANUDEEP P. RAO[5]

[1, 4, 5]*Department of Mechanical Engineering, Mangalore Institute of Technology & Engineering, MITE Badaga Mijar, near Mosdodabidre, Mangalore Tq, DkDist, Karnataka India.*

[2,3]*Department of Mechanical Engineering, Ballari Institute of Technology and Management, "JnanaGangotri" Campus, Ballari-Hosapete Road, Near Allipura, Ballari, Karnataka India*

ABSTRACT

Vibration is always a serious issue because of its potential to make failures in bearings and other related machine parts. When it comes to the rotors which are rotating and high speed this may turn into a really serious issue if neglected. So, monitoring the vibration values periodically is very much necessary to reduce such failures. Vibration in a rotary system can be caused by various valid reasons out of all which the vibration caused due to mass imbalance stand out because of its intensified effects. The top gas recovery turbines which are used to extract the power available at the furnace top in a typical iron making process, these turbines are reaction type which uses the pressure available at the furnace top to convert it into useful energy. Such a turbine was taken as the case of study. During the previous experimentationwhich tried to mass balance the generator rotor using single plane mass balancing yielded a parallax effect, i.e. the plane considered for the mass balancing yielded a lower value of vibration after mass balance, but the opposite plane gave a higher valve than normal, that particular problem of parallax effect is solved using two plane mass balancing in this paper.

KEYWORDS: Mass Balancing, High Speed Rotating Equipment & Vibration Response

Original Article

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CORROSION INHIBITION STUDY ON AGED 18NI 250 GRADE MARAGING STEEL IN PHOSPHORIC ACID AND NITRIC ACID SOLUTION USING 1,2,3 BENZOTRIAZOLE

PURANDARA NAIK[1] & JAGANNATH NAYAK[2]

[1]*Department of Mechanical, Mangalore Institute of Technology and Engineering, Moodbidri, Karnataka, India*

[2]*Department of Metallurgical and Materials Engineering, National Institute of Technology Karnataka, Surathkal, Manglore, India*

ABSTRACT

18 Ni 250 grade maraging steel is a potential high strength steel for advanced technologies such as aerospace, nuclear, and sporting goods. Phosphoric acid and Nitric acid solutions are used in pickling of delicate and precision items where re-rusting after pickling has to be avoided. The present work addresses the study of corrosion behaviour and inhibition using 1,2,3 benzotriazole of aged 18 Ni 250 grade maraging steel in phosphoric acid and Nitric acid medium at higher concentration by Potentiodynamic Polarization Technique. The corrosion rates were determined in 1M, 1.5M and 2M by Tafel extrapolation technique in the temperature range 30˚C-50˚C with different concentrations of inhibitor. The results indicate that the corrosion rate increases with increase in acid concentration and temperature. Inhibition efficiency of 1,2,3benzotriazole was found to increase with the increase in 1,2,3 benzotriazole concentration and decrease with the increase in temperature. The activation energy Ea and other thermodynamic parameters (ΔG˚, ΔH# and ΔS#) have been evaluated and discussed. The standard free energy of adsorption ΔG˚ads values indicates that the adsorption is of mixed type. Scanning electron microscopy (SEM) study confirmed the formation of an adsorbed protective film on the metal surface.

KEYWORDS: Maraging Steel, Acid Solutions, Organic Inhibitor, Polarisation, Adsorption

Original Article

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COMPARATIVE STUDY OF SIGNAL PROCESSING TECHNIQUES FOR THE DIAGNOSIS OF FAULT IN BELT DRIVES

SUJESH KUMAR[1], DR. LOKESHA M[2], KIRAN KUMAR M V[3], DR. RAMACHANDRA C G[4] & DR. G PURUSHOTHAM[5]

[1,2,3]*Department of Mechanical Engineering, MITE, Moodabidri, Karnataka, India*

[4]*Department of Mechanical Engineering, Presidency University, Bangalore, Karnataka, India*

[5]*Department of Aeronautical Engineering, MITE, Moodabidri, Karnataka, India*

ABSTRACT

The machines are inherently having some kind of vibration in them. This vibration can be a language of the machine to communicate its problem with the outside world. The present work is an attempt to use this vibration signal to identify the fault and prevent the breakdown of the system. This needs a tool for analyzing the signal. In this paper, we have used two kinds of wavelet transform to analyze the signal. The Belt drive is fabricated and used as a system to generate required vibration signal. The system consists of a motor, fixed with a belt using pulleys. Initially the belt is run in a healthy condition and the signals are collected. This healthy signal will act as a reference for analyzing all other types of signals, obtained after inducing the fault in the system. Several experiments are carried out to check the effectiveness of the technique. Now in this paper, a comparative study is made between two types of wavelet functions, namely Morlet wavelet function and Mexican Hat wavelet function. The belt is induced with three kinds of faults, namely loose, side cut in 2mm and side cut in 4mm. The amplitude of the vibration was found to be maximum for side cut in 4mm condition. This is analyzed by two kinds of wavelet functions and the Mexican hat wavelet function was found to be more sensitive for this particular work.

KEYWORDS: Wavelet Function, Belt Drive, Signal Processing, Predictive Maintenance

Original Article

1 INTRODUCTION

Man has made his life easy by making use of machines. These machines are having many moving parts and they need to be serviced. This maintenance work includes lubrication, cooling, cleaning, inspection etc [1]. This improves the safety and reliability of machines. This needs a regular inspection and action has to be taken, when there is any fault identification. This troubleshooting technique varies from machine to machine and company to company. However, the main objective of the maintenance is to obtain uninterrupted workflow. But unfortunately, it is not possible to achieve it. Because no system in nature can work without taking a break. Many researches has been taken place to overcome this problem and the scientists and engineers have come up with various types of maintenance techniques. Mainly there are three types of maintenance techniques, namely Breakdown or Reactive maintenance, Preventive or Periodic maintenance and Predictive or Condition based maintenance [4, 5]. Among all the three types of technique, the Condition based maintenance is considered as advanced and cost effective [7]. It helps in saving the time and money.

The condition-based maintenance requires a property to be identified in the machine, which indicates the health of the system [9]. This may be classified into many categories. Wear Debris Monitoring, Spectrophotometer Oil Analysis Program (SOAP), Temperature Monitoring, Non Destructive Test (NDT) are some of the techniques

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FAULT DETECTION IN BEARINGS USING ADVANCED SIGNAL PROCESSING TECHNIQUE

KIRAN KUMAR M V[1], DR. M LOKESHA[2], DR. UMASHANKAR K S, SUJESH KUMAR[4] & AJITH KUMAR SHETTY[5]

[1,4]*Research Scholar, Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering, Moodbidre, India*

[2]*Professor, Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering, Moodbidre, India*

[3]*Professor, Department of Mechanical Engineering, KVG College of Engineering, Sullia, India*

[5]*Assistant Professor, Department f Aeronautical Engineering, Mangalore Institute of Technology and Engineering, Moodbidre, India*

ABSTRACT

A Bearing is one of the essential components of rotary machines and has been commonly used in various industrial applications, such as shaft mounting, to minimize friction as well as to promote relative motion between the two mating parts, etc. The detection of early fault conditions from bearings is very important factor. Various means of carrying fault detection are available, such as vibration monitoring, debris monitoring, temperature monitoring, soap techniques, non-destructive testing, etc. The analysis of vibration signals may be one of the techniques commonly used to inspect the condition and find faults in bearings. The vibration analysis was used as a predictive diagnostic technique for the diagnostic of the system. By following correct signal processing methods, changes in vibration signals due to faults can be identified to help maintain a stable bearing state. With proper detection and analysis of machine vibration data, machine failure can be calculated and predicted. This paper gives a relative study of the different techniques used to find fault in bearings based on the vibration analysis method.

KEYWORDS: Bearings, Wavelet, Signal Processing

Original Article

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Investigating the Impact of Deep Cryogenic Treatment on Surface Roughness and Cutting Force in Turning C45 Steel

Santosh [a], Mohammed Riyaz Ahmed [b], M. Lokesha [c], L.H. Manjunath [a]

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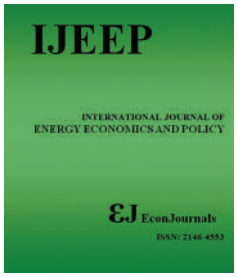
Abstract

In this work, aimed to predict an optimized combination of machining parameters to produce minimum cutting force and surface roughness while turning of C45 steel, with deep cryo-treated M2 HSS tool under dry condition. Methods: Design of Experiments (DOE) with Taguchi's L9 orthogonal array (OA) is used to predict the optimum combinations of machining parameters to produce minimum cutting force and surface roughness. S/N Ratio and ANOVA analysis were conducted to show the control of three cutting parameters on the cutting force and surface roughness.



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Biogas from Cattle Dung as a Source of Sustainable Energy: A Feasibility Study

K. Abhaya Kumar[1], Prakash Pinto[2], Iqbal Thonse Hawaldar[3]*, B. R. Pradeep Kumar[1]

[1]Department of MBA, Mangalore Institute of Technology and Engineering, Moodabidri, Karnataka, India, [2]Department of Business Administration, St. Joseph Engineering College, Mangalore, Karnataka, India, [3]Department of Accounting and Finance, College of Business Administration, Kingdom University, Bahrain. *Email: thiqbal34@gmail.com

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ABSTRACT

Many studies have stated that the usage of traditional cooking fuels like firewood, dung, and coal has caused many unfortunate deaths in India. The alternative fuel sources like LPG and electricity are in scarce and. Today, researches in the area of biofuel or bioenergy are of prime interest to many researchers to contribute to sustainable energy sources. Bioenergy from cattle dung is one such area, particularly for a country like India where dairy farms is a major supplier of feedstock. In this study, using logistic regression methodology, we have analysed the socio-economic factors influencing the adoption of biogas digesters among dairy farmers in Karnataka, India. The study revealed that the number of cattle and family size are the key factors for biogas adoption and poor knowledge of the family size and cattle ratio is the key hurdle. Using cross-tabulation and some basic mathematical analysis, we concluded that the optimal number of cattle for one adult in a family is 1.

Keywords: Sustainable Energy Source, Biogas, Cattle Dung, Dairy farmers, Socioeconomic Factors, India
JEL Classifications: Q4, P28

1. INTRODUCTION

The energy crisis and green environment are demanding for a carbon-neutral and efficient source of energy (Mohapatro et al., 2014). Increasing crude prices has resulted in expensive LPG and firewood has become a costlier source of energy owing to increased demand from industries. Biogas is an alternative source of energy for cooking in rural India. Harsdorff (2014) and Hemme et al., (2003) states that India is the largest producer of milk and cattle dung in the world. Biogas is a source of renewable energy generated from the organic wastes of animals. Cattle dung is the major source of animal waste used in rural India to generate biogas. In 1950s country had a large number of cattle, however, the production of milk was not self-sufficient. Oxen and buffaloes were used in the agricultural fields for the farming process, hence a good amount of dung or animal wastes were available. However, increased use of technology in farming has reduced the dependence on animals in the agricultural fields, which has resulted in the reduced yield of the dung. So the generation of biogas in rural India is decreasing. Hence, today biogas from animal waste in rural India is dependent on cattle dung generated at dairy farms. According to Mittal et al. (2018), the availability of feedstock is also a major hurdle for the development of biogas energy among households in India.

Some empirical studies on biogas revealed that cattle dung generated at the dairy farm is the best raw material input for the biogas plant. Nandiyanto et al. (2018) suggest, that a combination of dairy farming with a biogas plant is more profitable for rural households. Today the Indian dairy sector stands first in terms of milk production and contributes 20% of the world's total production (Pant et al., 2019). Farmers in India have witnessed many initiatives from the government to boost the milk production in the country, such as key village scheme (KVS), intensive cattle development project (ICDP) and operation flood (OF) (Pandian

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