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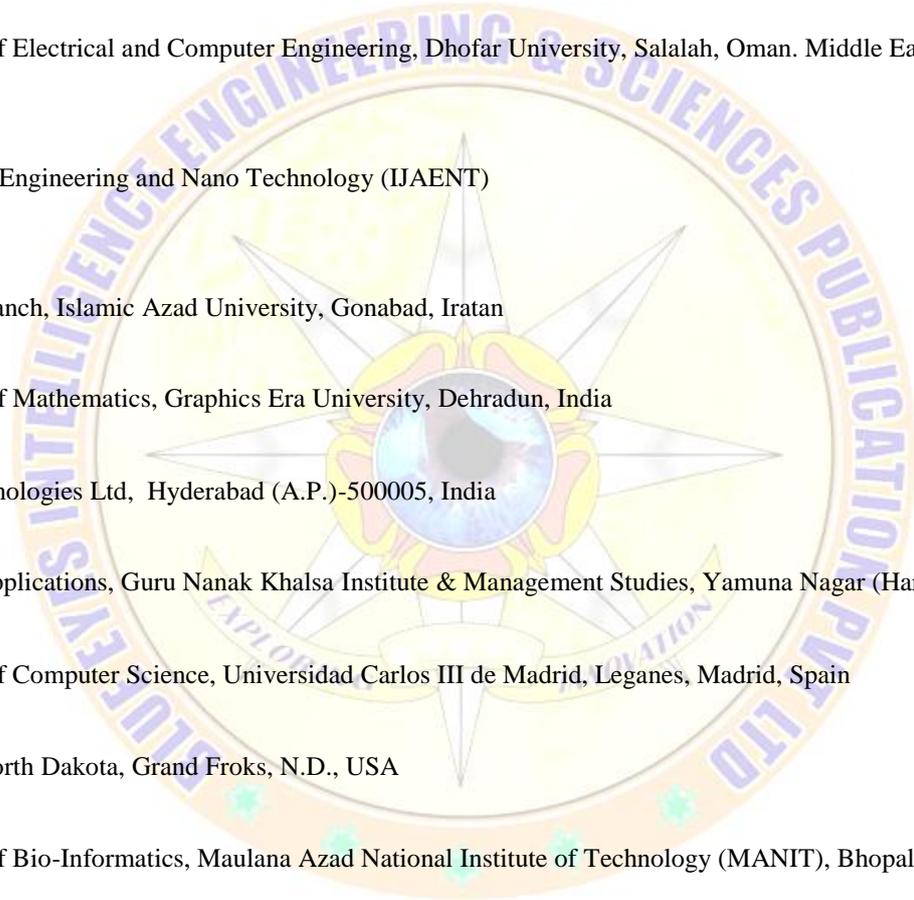
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1.	Authors:	Vishal J. Dhore, E. R. Deore	
	Paper Title:	Experimental Investigation of Compact Flywheel using Inertia Augmentation Mechanisms	
	<p>Abstract: Conventional flywheel system uses a single rim flywheel. The performance of the flywheel depends upon its mass, so also it encounters a lot of air friction and leads to more in-efficiency and more occupation. Flywheel releases stored energy by applying torque to a mechanical load, thereby decreasing the flywheels rotational speed. The dissertation work shows the flywheel optimum design model which fulfils minimum criteria of inertia result into safe and efficient working. In this study work on CAD base design and analysis with experimental base model generation in a feasible area of design. For a optimum design consideration of flywheel compare parameters like torque, power, efficiency with respective to speed. The experimental study and analysis shows the feasible area of design with torque Vs speed comparison by showing no changed in a considering design parameter as per the conventional design. The Power and Efficiency Vs Speed characteristics comparison shows that there is approximately in between seven to eight percentage increase in power output and five to six percentage efficient than the conventional flywheel respectively which will also result in increasing fuel economy of the engine efficient.</p> <p>Keywords: Compact, Conventional, Efficiency, Power, Torque</p> <p>References:</p> <ol style="list-style-type: none"> 1. Fridericy, Palos Verdes Estates (1980), Multi-Rim Flywheel Attachment, United States Patent, and Patent Number: 4,186,623, Application Number 892,587. 2. R J Haley, J P Kajs, R C Thompson, J H Beno (1998), Design and Testing of a Flywheel Battery for a Transit Bus, Society of Automobile Engineers, 1999-01-1159. 3. Park, Dong-Hoon, Suwon-Si, Kyunggi-Do (KR), (2000), Dual Mass Flywheel for Automobile Vehicle, European Patent Application, and Patent Number EP 1 046 834 A2, Application Number: 00105556-5. 4. Alastair John Young, Kenilworth, (2000), Twin Mass Flywheel, United States Patent, Patent Number 6 029 539, Application Number: 09/125 340. 5. Richard Benito Fradella, San Juan Capistrano (2004), Robust Minimal-Loss Flywheel Systems, United States Patents, Patent Number: US 6 794 777 B1, Application Number: 10/739 119. 6. Christopher W Gbrys, Reno (2004), Axially Free Flywheel System, United States Patents, Patent Number: US 6 710 489 B1, Application Number: 10/232 793. 7. Bjorn Bolund, Hans Bernhoff, Mats Leijon (2005), Flywheel Energy and Power Storage System, Science Direct, 11 (2007) 235 – 258. 8. Ulf Schaper, Oliver Sawodny, Tobias Mahl and Uli Blessing (2009), Modeling and Torque Estimation of an Automotive Dual Mass Flywheel, American Control Conference, Hyatt Regency Riverfront, st Louis, Mo, USA, June 10-12, 2009, WeB16.6. 9. Walter J Ortmann, Saline (2011), Controlling Torque in a Flywheel Power Train, United States Patent Application Publication, Publication Number: US 2011/0071000 A1, Application Number: 12/562 187. 10. John Abranhamsson, Hans Bernhoff (2011), Magnetic Bearing in Kinetic Energy Storage Systems for Vehicular Application, Journal of Electrical Systems, 7-2 (2011): 225-236. 11. Dr. Robert Hebner, (2012), Low-Cost Flywheel Energy Storage for Mitigating the Variability of Renewable Power Generation, Herber Public Version. 12. Rudolf Glassner, Kottes (2013), Dual Mass Flywheel, United States Patent, Patent Number: US 8 393 247 B2, Application Number: 13/147 048. 13. Kishor D Farde, Dr. Dheeraj S Deshmukh (2014), Review: Composite Flywheel for High Speed Application, International Journal of Innovative Research in Advanced Engineering”, ISSN: 2349-2163, Volume 1 Issue 6. 14. R. S. Khurmi, J. K. Gupta, “Machine Design”, Sixth edition, S. Chand Publication, 2005. 15. V. B. Bhandari, “Design of Machine Elements”, Third Edition, McGraw-Hill Education Pvt. Ltd. 2007. 16. Parthiban Delli, Ming Leu (2003), Unigraphics NX-3 for Engineering Design, Department of Mechanical and Aerospace Engineering, University of Missouri-Rolla. 		
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	Paper Title:	Simulation based Study on Fisheye State Routing Protocol	
	<p>Abstract: Mobile Ad Hoc Networks (MANETs) have gained immense popularity because of its simplicity, low cost and ease of deployment. It also enables mobile node to form a network without any centralized administrator. However, routing in adhoc network has always been challenging due to absence of any fixed infrastructure. It is self-organizing and adaptive wireless network. In this paper a simulation based study of Fisheye State Routing protocol has been made to understand the sensitivity of afore mentioned (Fisheye State Routing) protocol in highly dynamic network topology. The proposed paper is aimed to analyze the various parameters including throughput, jitter and delay involved on the nodes in FSR. Simulation based analysis of the protocol has been done using QUALNET.</p> <p>Keywords: Mobile Ad Hoc Networks (MANETs), centralized administrator, FSR, QUALNET.</p> <p>References:</p> <ol style="list-style-type: none"> 1. G. Pei, M. Gerla, Tsu-Wei Chen, "Fisheye State Routing: A Routing Scheme for Ad Hoc Wireless Networks," IEEE ICC 2000, vol. 1, pp. 70 -74. 2. Jatin Gupta and Ishu Gupta, Volume 3, Issue 5, May 2013, ISSN: 2277 128X “A review of evaluation of the Routing Protocols in MANETs” 3. Natarajan Meghanathan and Ayomide Odunsi, Journal of Theoretical and Applied Information Technology, (www.jatit.org) 		

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	Authors: Ricuța-Vasilica Dobrinouiu, Luminița Vișan, Silvana Dănăilă-Guidea, Andrei-Gabriel Ivan, Marius Căruțașu	
	Paper Title: Influence of the Fertilization Pattern on Production and Quality of Sugar Beet Roots Meant for Bio-Ethanol Extraction	
3.	<p>Abstract: Sugar beet growing as raw material for bioethanol production represents an extremely important opportunity for farmers, under the circumstances of some productive varieties use on areas adequately irrigated and fertilized. In comparison with the maize, used as raw material in bio-ethanol production, the sugar beet offers a series of important advantages, such as: the acquirement of a bigger ethanol quantity on the cultivated area (6.300 l bioethanol from sugar beet, in comparison with almost 3.400 l bioethanol obtained from maize grown per hectar), the crop adequacy in colder climate areas, unfavourable to maize, and an irrigation norm with 40 smaller. In this respect, on the one hand, the present work aims at bringing viable and pheasible arguments in favour of sugar beet crops fertilization, in order to obtain an economic effective production, especially during the years with low precipitations and, on the other hand, for a superior valorization of sugar beet production by bioethanol production.</p> <p>Keywords: bioethanol, foliar fertilization, organic fertilization, sugar beet.</p> <p>References:</p> <ol style="list-style-type: none"> Ricuta – Vasilica Dobrinouiu, Ștefana Jurcoane, Ana Roșu, Silvana Dănăilă-Guidea, Maria Moraru, Marin Dumbravă, 2011 - The impact of new technological approaches upon establishing production components and yield randament in <i>Carthamus tinctorium</i> L culture, <i>Romanian Biotechnological Letters</i>, Vol. 16, No.2 2011, p. 6125-6134; Ricuța-Vasilica Dobrinouiu, Luminița Vișan, Silvana Dănăilă-Guidea, Marin Dumbravă - Impact of some technological links on the production and quality parameters in castor-oil plants (<i>Ricinus communis</i> L.), <i>International Journal of Agriculture Innovations and Research - Volume 2, Issue 6</i>, ISSN (Online) 2319-1473, p. 1084-1089, 2014. Simona - Clara Bârsan, Ancuța - Maria Pușcaș, E. Luca, A. Setel, 2008, - Bioetanolul și cultura sfecelei de zahăr, <i>Agricultura—Revistă de știință și practică agricolă</i>, nr. 3-4 (67-68)/2008, p. 11-15; Gh. Manea, 2003 - Elemente pentru o politică națională de promovare a biocombustibililor, <i>Promovarea în România a surselor regenerabile de energie</i>, Editura Chiminform data, București; Jovana Rancovic, Jelena Dodic, Sinisa Dodic, S. Popov, 2009 - Bioethanol production from intermediate products of sugar beet processing with different types of <i>Saccharomyces cerevisiae</i>, <i>Chemical Industry & Chemical Engineering Quarterly</i>, 15 (1), 13-16; N. Saulescu, 1959 - Câmpul de experiență. Ed. Agro-Silvică de Stat, București, p. 223-228. 	9-14
	Authors: Zafarulla Khan, Feras Kafiah, Hafiz Zahid Shafi, Fayez Nufaiei, Sarfaraz Ahmed Furquan, Asif Matin	
	Paper Title: Morphology, Mechanical Properties and Surface Characteristics of Electrospun Polyacrylonitrile (PAN) Nanofiber Mats	
4.	<p>Abstract: This paper explores the effect of solution and electrospinning parameters on the morphology, mechanical properties and surface characteristics of Polyacrylonitrile (PAN) electrospun nanofiber mats. PAN/DMF (Dimethylformamide) solutions with different concentrations were electrospun under various parameters. The results show that the average fiber diameter increase from 208 nm to 881 nm with an increase in PAN concentration from 6 wt% to 12 wt%. Feed rate has inconsistent trend on the fiber diameter; however with increasing feed rate from 0.8 ml/hr to 1.4 ml/hr, the average fiber diameter more than doubled from 400nm to 895nm. Average fiber diameter decreased slightly from 383 nm to 332 nm up to a certain threshold value of voltage, and then increased significantly to 750 nm when voltage was increased beyond this threshold. Somewhat surprisingly, when the distance between needle tip and collector was increased from 100mm to 150 mm, average fiber diameter increased almost four times (200 to 750 nm). Increasing the needle diameter was found to decrease average fiber diameter and has a direct effect on Taylor cone shape and jet length. The increase in PAN concentration from 6 to 12% increased the tensile strength, failure strength and ductility of electrospun nanofiber mats by 346%, 229% and 504%, respectively. PAN concentrations have a significant effect on the wettability of the nanofiber mats as determined by the contact angle measurements. The electrospun mats became increasingly more hydrophobic with increase in PAN concentration.</p> <p>Keywords: PAN, electrospinning, nanofiber morphology, solution and process variables, mat.</p> <p>References:</p> <ol style="list-style-type: none"> Z. M. Huang, Z. Y. Zhang, M. Kotakic, and S. Ra, "A review on polymer nanofibers by Electrospinning and their applications in nanocomposites," <i>Composites Science and Technology</i>, vol. 63, pp. 2223–2253, 2003. L. Yao, T. W. Haas, A. Guiseppi-Elie, G. L. Bowlin, D. G. Simpson, and G. E. Wnek, "Electrospinning and stabilization of fully hydrolyzed poly (vinyl alcohol) fibers," <i>Chemistry of Materials</i>, vol. 15, pp. 1860-1864, 2003. R. Barhate, S. Koepl, and S. Ramakrishna, "Porous nano- and microfibrillar polymeric membrane material for catalytic support," <i>Chemical Engineering Research and Design</i>, vol. 89, pp. 621-630, 2011. K. Graham, M. Ouyang, T. Raether, T. Grafe, B. McDonald, and P. Knauf, "Polymeric nanofibers in air filtration applications," in <i>Fifteenth Annual Technical Conference & Expo of the American Filtration & Separations Society</i>, Galveston, Texas, 2002. 	15-22

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The availability of high performance personal computers, efficient web-based technology, and new initiatives in legal knowledge representation modeling should make the development of commercial compliance checking systems more viable than ever. However, the quest for an industry agreed unified approach seems to be far from over. The system allows for checking of model for different model attributes using the ifcXML schema which is created using either ArchiCAD or Revit architectural soft wares. Once the checking is completed, the interactive reporting interface offers a viewing option of the validated file.</p> <p>Keywords: IFC, BIM, Automated Code Compliance, J2SE.</p> <p>References:</p> <ol style="list-style-type: none"> Johannes Dimyadi, Robert Amor, "Automated Building Code Compliance Checking-Where is it at?" 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Keywords: Ablation time, CTAB solution, pulsed laser ablation technique, Zinc oxide nanoparticles.

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Paper Title: Implementation of Carving Machine Controller Based on L293D

Abstract: A design project of implementation of Carving Machine Controller based on L293D platform is introduced in this paper. ARM (Advanced RISC Machines) is the kernel processors of the control system which takes MATLAB as the software development platform and implements to develop a complete independent system that will automatically carve names or any other design on front surface of thermacol as a material. L293D is selected as motor driving IC of numerical control device and ARM7 as central processing unit of controller. The carving machine with low cost, high speed, good accuracy with easy HMI human machine interaction. It is proved that the control system can effectively improve the efficiency and the machining quality of carving machine.

Keywords: ARM7, Carving machine, HMI, MATLAB.

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