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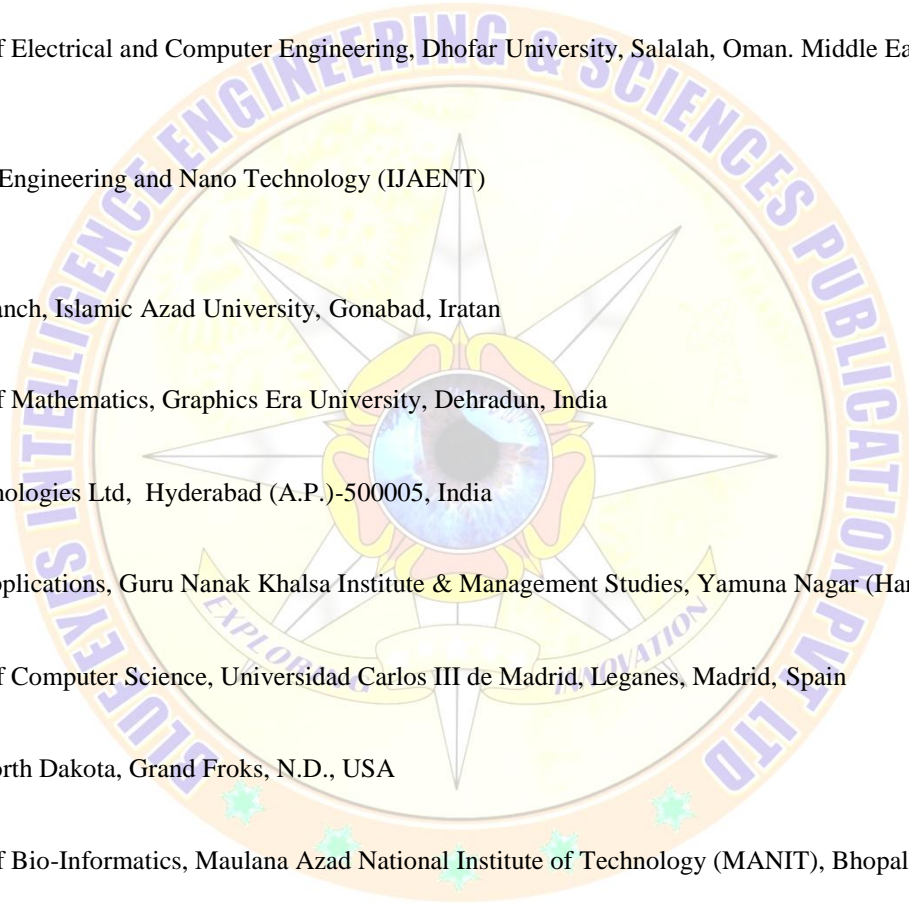
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1.	Authors:	Jaya Bharti, Arshali Sasi, C. Sasi Kumar	
	Paper Title:	Promising Nature of MoO₃ Nanostructures in Gas Sensing Applications – A Review	
	<p>Abstract: Molybdenum trioxide (MoO₃) is a transition metal oxide with a wide band gap. It is an n-type semiconductor material with an oxygen deficiency. MoO₃ used as a sensing element for many of the reducing and oxidizing gases and proved to be a promising candidate for the same. Many literatures are available in this context; out of which some are explained in this article. This discussion covers the gas sensing response of different type of nanostructures of molybdenum trioxide and selectivity of particular structure toward the gas being sensed. It also includes the graphical representation of the variation of sensitivity/sensor response with the concentration of test gas. Lastly conclusions have been made on the basis of the discussion given in the following sections.</p> <p>Keywords: Sensing mechanism, Gas sensing response of Molybdenum trioxide, MoO₃ Nanostructures</p> <p>References:</p> <ol style="list-style-type: none"> 1. R. John Bosco Balaguru, Mimic of a Gas sensor, Metal Oxide Gas Sensing Mechanism, Factors Influencing the Sensor Performance and Role of nanomaterials based gas sensors, NPTEL – Electrical & Electronics Engineering – Semiconductor Nanodevices. 2. Yu-Feng Sun 2012, Metal Oxide Nanostructures and Their Gas Sensing Properties: A Review, Sensors 2012. 3. S. Barazzouk 2006, MoO₃-based sensor for NO, NO₂ and CH₄ detection., Sensors and Actuators B 119 (2006) 691–694 4. M.B. Rahmani, November 2009, Gas sensing properties of thermally evaporated lamellar MoO₃, Sensors and Actuators B 145 (2010) 5. Shouli Bai, 2012 , Ultrasonic synthesis of MoO₃ nanorods and their gas sensing properties., Sensors and Actuators B 174 (2012) 51– 58 6. Rao M.C.2013, Review Paper - Structural Stoichiometry and Phase Transitions of MoO₃ Thin Films for Solid State Microbatteries, Research Journal of Recent Sciences , Vol. 2(4), 67-73, April (2013) 7. H. Bhavani Naga Prasanna 2014, Structural, Morphological, Optical & Infrared properties of nanocrystalline MoO₃ thin films, International Journal of ChemTech Research Vol.6, No.3, pp 1988-1990, May-June 2014 8. Manal M.Y.A. Alsaif , November 2013, Two dimensional α-MoO₃ nanoflakes obtained using solvent-assisted grinding and sonication method: Application for H₂ gas sensing., Sensors and Actuators B 192 (2014) 196– 204 9. S.S. Sunu, Electrical conductivity and gas sensing properties of MoO₃, Sensors and Actuators B 101 (2004) 161–174 10. Shouli Bai, 2014, Intrinsic characteristic and mechanism in enhancing H₂S sensing of Cd-doped -MoO₃ nanobelts. Sensors and Actuators B 204 (2014) 754–762 11. E. Comini 2000, Carbon monoxide response of molybdenum oxide thin films deposited by different techniques, Sensors and Actuators B 68 2000. 168–174 12. Arnab Ganguly, March 2007, Synthesis, characterization and gas sensitivity of MoO₃ nanoparticles., Bulletin of Material Science, Vol. 30, No. 2, April 2007, pp. 183–185 13. K. Galatsis , 2002, Comparison of single and binary oxide MoO₃,TiO₂ and WO₃ Sol- gel gas sensors , Sensors and Actuators B 83, 2001 14. Elisabeth Comini , December 2005 ,Metal oxide nano-crystals for gas sensing, Review, Analytica Chimica Acta 568 (2006) 28–40 15. S. YANG, September 2014, Controlled Synthesis of Micro/Nano MoO₃ by Physical Vapor Deposition and Its Gas Sensing Properties to NH₃ Gas at Room Temperature. Ferroelectrics, 477: 112–120, 2015 16. Antonella M. Taurino, ,2006 , Synthesis, electrical characterization, and gas sensing properties of molybdenum oxide nanorods ., Applied Physics Letter 88, 152111 (2006) 17. G.E. Buono-Core, Synthesis and characterization of thin molybdenum oxide films prepared from molybdenum dioxo tropionate precursors by photochemical metal-organic deposition (PMOD) and its evaluation as ammonia gas sensors., Journal of Non-Crystalline Solids 387 (2014) 21–27 18. A.K. Prasad 2003, Comparison of sol–gel and ion beam deposited MoO₃ thin film gas sensors for selective ammonia detection, Sensors and Actuators B 93 (2003) 25–30 19. D. V. Ahire , Sep. 2012, Preparation of MoO₃ Thin Films by Spray Pyrolysis and Its Gas Sensing Performance ., International Journal On Smart Sensing And Intelligent Systems, Vol. 5, No. 3, September 2012 20. Won-Sik Kim , Gas sensing properties of MoO₃ nanoparticles synthesized by solvo-thermal method., Journal of Nanoparticles Research (2010) 12:1889–189 21. Longqiang Wang,, December 2013, Synthesis of Crystalline/Amorphous Core/Shell MoO₃ Composites through a Controlled Dehydration Route and Their Enhanced Ethanol Sensing Properties., Crystal Growth & Design 22. E. Comini 2003, Response to ethanol of thin films based on Mo and Ti oxides deposited by sputtering, Sensors and Actuators B 93 (2003) 409–415 23. Li-li Sui, November 2014, Construction of three-dimensional flower-like -MoO₃ with hierarchical structure for highly selective triethylamine sensor., Sensors and Actuators B 208 (2015) 406–414 		1-9
Authors:	Abdelzاهر E. A. Mostafa, Waleed M.F. Tawhed, Mohamed R. Elshahat		
Paper Title:	Developing New Design Criteria of Asphalt Pavement Mix Using Nano-Materials and Polymer-Materials		
2.	<p>Abstract: In the context of the wide demand of high quality of bitumen, this research was initiated with the objective of enhancing the asphalt mix properties. Variable additives percentages of nanomaterial and polymer material were investigated, experimentally, in order to determine their effect on asphalt properties. Three nano materials (i.e. nano-silica, nanoKaolinite and nano-montmorlinit) and three polymer materials were considered (i.e. SBS, polypropylene, and polyethylene). Modified specimens (with 1, 3, 5, 7, and 9% of nano and polymer material) were prepared. Rheological properties tests were conducted (i.e. penetration, softening, flash point and viscosity). In addition, mechanical properties tests were carried out (i.e. Marshall, compression, and indirect tensile tests). Results were obtained and analyzed. They indicted that additives enhanced rheological and mechanical</p>		10-20

properties of asphalt mix.

Keywords: Hot Asphalt Mix; Polymerized-Materials

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Authors:	B. A. Elsayed, M. A. Hegazy, H. M. H. Abd El-Bary, Ahmed A. Abdel Salam
Paper Title:	Evaluating Synthesized Schiff base as Corrosion Inhibitor on Carbon Steel in 0.5 M HCl and 0.5 M H₂SO₄

Abstract: The inhibition effect of synthesized schiff base on the corrosion of carbon steel in (0.5 M HCl and 0.5 M H₂SO₄) was studied at different temperatures (25–55 °C) by weight loss, electrochemical impedance spectroscopy (EIS) and potentiodynamic polarization methods. The carbon steel surface morphology was investigated by SEM. The obtained results showed that the prepared schiff base is excellent inhibitor in (0.5 M HCl and 0.5 M H₂SO₄) and the inhibition efficiency (η) increases with the inhibitor concentration, but it decreases with increasing temperature. The adsorption of inhibitor on the surface of carbon steel is mixed chemical and physical adsorption and found to obey the Langmuir adsorption isotherm equation. Thermodynamic parameters have been obtained by adsorption theory. Polarization curves showed that the synthesized inhibitor is mixed-type inhibitor in both hydrochloric acid and sulfuric acid. Data obtained from electrochemical impedance spectroscopy (EIS) studies were analyzed to model-inhibition process through appropriate equivalent circuit model. Potentiodynamic polarization studies have been shown that the inhibitor acts as a mixed type of inhibitor. Scanning electron microscope (SEM) confirmed the protection of the carbon steel surface by the inhibitor.

Keywords: (0.5 M HCl and 0.5 M H₂SO₄), (EIS), SEM., (25–55 °C), (η), (EIS), Potentiodynamic, hydrochloric

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	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>Saurav Kumar, R.K. Pandey, Sanjeev Singh, Neha</td> </tr> <tr> <td>Paper Title:</td> <td>Effect of PVC Waste and Replacement in Construction of Flexible Pavement</td> </tr> </table>	Authors:	Saurav Kumar, R.K. Pandey, Sanjeev Singh, Neha	Paper Title:	Effect of PVC Waste and Replacement in Construction of Flexible Pavement	
Authors:	Saurav Kumar, R.K. Pandey, Sanjeev Singh, Neha					
Paper Title:	Effect of PVC Waste and Replacement in Construction of Flexible Pavement					
4.	<p>Abstract: Bituminous pavement concrete is composite material used in construction of road pavement, airport runway and parking. It contains bitumen and aggregate mixed together, laid in layers and compacted. The steady increment in highway traffic volume density and remarkable variation in daily and seasonal temperature causes rapid deterioration and failure of pavement surface and course. Looking into the pavement condition it is worth to think of some admixes to be used for modification in constituents and mixture which must satisfy strength and economical aspects. It is worth to note that increased use of PVC in society is raising serious environmental issues; I have tried to mix PVC waste with bitumen for preparation of pavements as a little solution for the environmental pollution. The bituminous concrete mixes prepared with defined volume of PVC and aggregate as per the codes of IRC were used to prepare samples for testing. The samples were tested for Marshall Properties like stability, flow volume, unit weight, air voids etc and the optimum PVC content for the choosed bitumen (80/100) were achieved.</p> <p>Keywords: Bituminous, pavement, (80/100), PVC, Properties like stability, Looking, IRC, volume, modification</p> <p>References:</p> <ol style="list-style-type: none"> 1. Aslam Shahan-ur-Rahman “Use of Waste Plastic in Construction of Flexible Pavement”, <i>New Building Materials & Construction World</i>, 2009 2. Das, A., (1998). Analytical design of bituminous pavements based on field performance, unpublished PhD thesis, Civil Engg. Dept., IIT, Kharagpur 3. Justo C.E.G. and Veeraragavan A “Utilization of Waste Plastic Bags in Bituminous Mix for Improved Performance of Roads”, <i>Centre for Transportation Eng ineering, Bangalore University, Bangalore, India</i>, 2002. 4. T. Awwad Mohammad and Sheeb Lina, the Use of Polyethylene in Hot Asphalt Mixtures, <i>American Journal of Applied Sciences</i> 4 (6) pp-390-396, 2007. 5. Annual Book of ASTM Standards, 1999. ASTM D-6373, Standard Specification for Performance Graded Asphalt Binder, pp: 1102-1136. 	36-45				