Research and Reviews Journal of Material Science

ISSN:2321-6212

DOI: 10.4172/2321-6212.1000r005

Major Nuclear Accidents - A Review

Naga ChandraMouli A*

Department of Biotechnology, GITAM University, Andhra Pradesh, Visakhapatnam, India

Review Article

Received: 03-02-2017
Accepted: 21-06-2017
Published: 28-06-2017

***For Correspondence:** Naga ChandraMouli A, Department of Biotechnology, GITAM University, and AndhraPradesh, India 530007.

E-mail: mouliachanta3269@gmail.com

Keywords: Nuclear safety, Radioactive material, Nuclear accidents

ABSTRACT

In Nuclear power plant (NPP) heat source is a nuclear reactor which deliveries enormous scale electrical power at inexpensive amount as a improper load to electrical grids historically even though the nuclear business has good safety record we can speak a bunch about nuclear accidents like Chernobyl accident. This article reviews the reactor safety technology and how Modern nuclear reactors are disposed to accidents, shortages of high quality uranium ore may be imminent and the thermoelectric fuel cycle of nuclear plants consumes and degrades vast quantities of water. Safety of NPP has taken methods to discourse new safety challenges raised from the recent accident. Though, safety has been major alarm due to potential release of radioactive material from an accident.

INTRODUCTION

It is about the 50-year history of civil nuclear power generation more than 14,500 reactor-years of civil operation, only three major accidents like Three Mile Island accident, Chalk River Nuclear Accident and Mayak nuclear accident. In NPP the radioactivity is primarily contains nuclear fuel elements which are in the form of rods. Coolant water is used to remove heat produced from fuel rods [1-11]. When the reactor is shutdown there is still heat generated from the core which persevere for a very long period. Hence long term cooling is required even after the reactor is not operating The reactor safety system objectives are to shut down the reactor (achieved through insertion of control rods), preserve it in a shutdown condition, and prevent the release of radioactive material during events and accidents such as loss of coolant accident. The undeveloped design philosophy followed world-over for assuring nuclear power plant safety is called defence-in-depth which has safety systems complementing. Key features of this approach which can be summed up as Prevention, Checking and Action, High-quality design and construction in which the reactor operates with a high degree of dependability [11-17]. The inhibition of accidents is through intrinsic features and pressures on quality control, redundancy, testing, and fail-safe design. Developing of equipment's which prevents operational disturbances or human failures and errors evolving into problems, Wide-ranging nursing and regular testing to detect damage to the fuel equipment or operator failures, Redundant and diverse systems to control and prevent important radioactive releases, Delivery to confine the effects of severe fuel damage to the plant itself.

At present they are 31 countries which operate NPP most of them are from North America Asia China and Japan. Major NPP are shown in USA, totally they are 479 Nuclear operated reactors which are running in the world which generates 2,798 TWh of electricity in that Iran have the least count or operated reactors and Australia as the major portion in the reserves of Uranium [17-27].

Research and Reviews Journal of Material Science ISSN:2321-6212

DOI: 10.4172/2321-6212.1000r005

MAJOR ACCIDENTS

Major accidents like Chernobyl accident which took place in Ukraine. Which is located 125 km north of Kiev on 28th April 1986 occurred because of flawed reactor design and serious faults made by plant operators which destroyed Chernobyl 4 reactor, killing 30 operators. On 26th April they attempted the test by the time that the operator moved to shut down the reactor, the reactor was in an extremely unstable condition this leads to disaster [27-57]. Chalk River Nuclear Accident called CRL located in Canada started in 1944 which was experienced with accidents twice in 1952 and 1958 in first incidence which resulted to damage of core there was a power excursion and partial loss of coolant in the NRX reactor. The control-rods could not be let down into the core, because of mechanical problems and human errors [57-77]. Three rods did not spread their endpoint, and were taken out again by accident and in 1958 some fuel rods were hot under the collar due to robotic crane, one of the rods with metallic uranium was towed out of the reactor vessel. When the arm of the crane moved away from the vessel, the uranium caught fire and the broken rod which leads to accident. In Mayak nuclear accident which is in Russia is the maximum points of the planet with radioactive pollution they have occurred numerous radioactive leaks which caused troubled of the most polluted parts of the world Cautious spill of radioactive materials in the river Tech[77-92]. Windstorm that scattered radioactive materials coming from sediments of Lake Karachay in 1967, Ozersk people were not well-versed, so they constant to use water for domestic use which caused serious health problems [93-110].

In order to create consciousness among the people, group of people unite to form a society or an organization like Biomaterials Aim of these societies is to counsel and create the awareness in the day to day life [92-100]. Major societies like aims at fetching together the professors, educators , researchers, clinicians, American Association Of Pharmaceutical Association provide an international forum for the dissemination of original research results, new ideas and practical development experiences which concentrate on both theory Bioenergy consult discussing contemporary Biofuels and Bioenergy Expo research. We invite you to contribute and help to shape the Biofuels, Biogas, Biomass, Bio refineries, Bioenergy

Fukushima Nuclear Power Plant Safety was well described in the article which was published by Journal of Nuclear Energy Science & Power Generation Technology. and journal like Journal of Material Sciences & Engineering discusses performance of materials in order to synthesize new materials, develop improved processes for making materials to have a wide knowledge on topic which are related to the material sciences. Journal of Powder Metallurgy & Mining says about physical and structural properties of metals

2nd International Conference on Smart Materials & Structures describes materials that have one or more properties that can be meaningfully changed in a controlled fashion by outside stimuli, such as stress, temperature, moisture, pH, electric or magnetic fields. which was held in Pennsylvania, USA 5th World Congress on Materials Science & Engineering calls about designing, choosing, and using three vital classes of materials-metallic materials, ceramics, and polymers which was held in Spain2016. All the talks which have good impact how the materials work and react to their neighbour metals.

Abbas Teimouri speaker talks about Silk fibroin which is a kind of natural polymers with a great potential in biomedical application due to its good biocompatibility, biodegradability, high tensile strength. Has completed phd from Isfahan University of Technology, Isfahan, Iran. Alexander Eberle from Germany Ludwig Maximilian University of Munich focused on Organic Solid-Solid Wetting Deposition (OSWD) that allows the formation of monolayers made of insoluble organic semiconductors such as Pentacene, PTCDA or Quinacridone [110-120]. These fallouts enable a low-cost large-scale production of semiconductor-monolayers with well-defined properties.

CONCLUSION

Major accident has delivered exclusive lessons and motivation to improve safety of NPP. Each accident has shown boundaries or faults in technology, regulation, and human factors. Reassessment of safety culture has taken place subsequent each accident. However, the improvements implemented seem limited. The Chernobyl accident has added new dimension to the old debateon nuclear energy role. The direct consequence of is more stringent safety requirements and regulatory overhaul of existing plants. After the Chalk River accident severe accident managementhas received much more focus than previously and now is considered not only in NPP design but also in operation guidelines and peer nuclear energy is a part of energy portfolios and it will remain so for at least another 50 years or so until renewable is produced economically in large scale. New technologies should be

DOI: 10.4172/2321-6212.1000r005

developed to save the mankind from radiations and make the nuclear accidents a less count development have to be made in the designing of reactors which have high use globally.

REFERENCES

1. Revankar ST. Post-Fukushima Nuclear Power Plant Safety - A Review. J Nucl Ene Sci Power Generat Technol 2012;1:1
2. Narasimharao K, et al. Synthesis of Graphene Oxide by Modified Hummers Method and Hydrothermal Synthesis of Graphene-NiO Nano Composite for Supercapacitor Application. J Material Sci Eng 2016;5:284.
3. Kaupp G. Important Consequences of the Exponent 3/2 for Pyramidal/Conical Indentations-New Definitions of Physical Hardness and Modulus. J Material Sci Eng 2016;5:285.
4. Heredia AS, et al. Stress-Strain Characterization in Fiber-Reinforced Composites by Digital Image Correlation. J Material Sci Eng 2016;5:286.
5. Shahid T, et al. Synthesis of Pyramid-Shaped NiO Nanostructures using Low-Temperature Composite-Hydroxide- Mediated Approach. J Material Sci Eng 2016;5:287.
6. Sánchez LG, et al. Technology Geometric Decoration with Silver and/ or Bronze Wires on Magnetite Patinas in the Armament of the Preroman Peoples of the Iberian Peninsula. J Material Sci Eng 2016;5:288.
7. Ahmad AF, et al. Attenuation Performance of Polymer Composites Incorporating NZF Filler for Electromagnetic Interference Shielding at Microwave Frequencies. J Material Sci Eng 2016;5:289.
8. Assylbekov BZ, et al. Environmental Quality Assessment of Dairy Products Manufactured in the Area of Kazakhstan Aral Sea Region. J Material Sci Eng 2016;5:290.
9. Mohan AC and Renjanadevi B. Effect of Zinc Oxide Nanoparticles on Mechanical Properties of Diglycidyl Ether of Bisphenol-A. J Material Sci Eng 2016;5:291.
10. Ocheri C and Mbah AC. Reduction of Sulphur Content of AGBAJA Iron Ore using Hydrochloric Acid (HCL). J Material Sci Eng 2016;5:292.
11. Essa S. Analytical and Numerical Analysis of Functionally Graded Heat Conduction Based on Dirichlet Boundary Conditions. J Material Sci Eng 2016;5:293.
12. Wang Q, et al. Mechanical Behavior of Long Carbon Fiber Reinforced Polyarylamide at Elevated Temperature. J Material Sci Eng 2016;5:294.
13. Najafov BA and Abasov FP. Determining the Amount of Hydrogen in Thin Films Well $Si_{1-x}Ge_x$: H (X = 0 ÷ 1) for Electronic Devices. J Material Sci Eng 2016;5:295.
14. Mongelli GF. Counting the Relative Number of Hydrogen Bonds in Several Alcohol Co-solvated Systems via GROMACS. J Material Sci Eng 2016;5:296.
15. Muzaffar MU, et al. Enhanced Interlayer Coupling of CuO_2 Planes Promote the Superconducting Properties of $Cu_{0.5}Tl_{0.5}Ba_{2-Y}Sr_YCa_2Cu_3O_{10-\delta}$ (Y=0, 0.15, 0.25) Samples. J Material Sci Eng 2016;5:298.
16. Ghafari M, et al. Are Transition Metal-Rich Metallic Glasses Made Up of Distorted Bcc Clusters?. J Material Sci Eng 2016;5:299.
17. Huy TD, et al. Characterization of Feal by Powder Metallurgy Route. J Material Sci Eng 2016;5:267.
18. Kozhabayevich KM, et al. Studying of Species Composition of Activators of Skin and Visceral Leishmaniasis in the South of Kazakhstan. J Material Sci Eng 2016;5:268.
19. Abasov FP. Effect of Gamma Irradiation on Photoelectric Parameters of Double-Barrier Structure Based on Silicon. J Material Sci Eng 2016;5:269.
20. Poddar P, et al. Mechanical and Thermal Properties of Short Arecanut Leaf Sheath Fiber Reinforced Polypropyline Composites: TGA, DSC and SEM Analysis. J Material Sci Eng 2016;5:270.
21. Elshafie S, et al. Mechanical Performance of Reinforced Concert with Different Proportions and lengths of Basalt Fibres. J Material Sci Eng 2016;5:271.
22. Guduru KK, et al. Synthesis and Analysis of Natural Fibers Reinforcement of Synthetic Resins. J Material Sci Eng 2016;5:272.
23. Talwar DN and Becla P. Polarization Dependent Reflectivity and Transmission for Cd1-Xznxte/GaAs (001) Epifilms in the Far-Infrared and Near-Infrared to Ultraviolet Region. J Material Sci Eng 2016;5:273.
24. Ali NM, et al. To Develop a Biocompatible and Biodegradable Polymer-Metal Composite with Good; Mechanical and Drug Release Properties. J Material Sci Eng 2016;5:274.

DOI: 10.4172/2321-6212.1000r005

25. Moutcine A, et al. Polymer Electrode Material for Microbial Bioelectrochemical Systems. J Material Sci Eng 2016;5:275.
26. You PL. Large-Scale Bose-Einstein Condensation in a Vapor of Cesium Atoms at Normal Temperature (T=353K). J Material Sci Eng 2016;5:276.
27. Mgbemeje EA, et al. Influence of Annealing Temperatures on the Structural, Morphological, Crystalline and Optical properties of $BaTiO_3$ and $SrTiO_3$ Nanoparticles. J Material Sci Eng 2016;5:277.
28. Yu W. Microstructure Evolution and Brazing Mechanism of Ti_2SnCTi 6Al4V Joint by Using Cu Pure Foil. J Material Sci Eng 2016;5:278.
29. Vinokurov V, et al. Nanoconfined Reactions in Clay Nanotubes Based on Metal Salt Loading. J Material Sci Eng 2016;5
30. Heidari A. Computational Study on Molecular Structures of C20, C60, C240, C540, C960, C2160 and C3840 Fullerene Nano Molecules under Synchrotron Radiations Using Fuzzy Logic. J Material Sci Eng 2016;5:282.
31. Bolandhemat N, et al. Structural, Electronic and Magnetic Properties of Geometrically Frustrated Spinel CdCr2O4 from First-principles Based on Density Functional Theory. J Material Sci Eng 2016;5:250.
32. Chandrashekhar A, et al. Scratch Wear Resistance of TiALN and AlCrN Coated EN-353 Steel. J Material Sci Eng 2016;5:251.
33. Shilpa KN, et al. Removal of Cu (II) from Water Using Hydrothermally Synthesized Strontium Doped Zirconium Oxide Nano Adsorbents. J Material Sci Eng 2016;5:252.
34. Khan Z, et al. Low Velocity Impact of Filament-Wound Glass-Fiber Reinforced Composite Pipes. J Material Sci Eng 2016;5:253.
35. Kalra A, et al. Mechanical Behaviour of Skin: A Review. J Material Sci Eng 2016 ;5:254.
36. Hedayat N and Du Y. Using Flixweed Seed as a Pore-former to Prepare Porous Ceramics. J Material Sci Eng 2016;5:255.
37. Dou Z, et al. Effect of Al_2O_3 Nanoparticles Doping on the Microwave Dielectric Properties of CTLA Ceramics. J Material Sci Eng 2016;5:256.
38. Kumar NGM and Jasper KM. Fabrication and Testing of Pure and NaOH Treated Sisal Fibre Reinforced Bio-Composite. J Material Sci Eng 2016;5:257.
39. Bensalah N and Dawood H. Review on Synthesis, Characterizations, and Electrochemical Properties of Cathode Materials for Lithium Ion Batteries. J Material Sci Eng 2016;5:258
40. Jibowu T, et al. Magnetic Mirtazapine Loaded Poly (propylene glycol) bis(2aminopropylether) (PPG-NH_2, MW_2000) Nanocarriers for Controlled Drug Release. J Material Sci Eng 2016;5:259.
41. Chandra RK, et al. Improvement in Tensile Strength and Microstructural Properties of SAW Welded Low Alloy Steels by Addition of Titanium and Manganese in Agglomerated Flux. J Material Sci Eng 2016;5:260.
42. Lakhe MG, et al. Electrochemical Synthesis and Characterization of Cu2ZnSnS4 Thin Films. J Material Sci Eng 2016;5:261.
43. Wada K. Partial Transformation and the Two-Way Shape Recovery Characteristics. J Material Sci Eng 2016;5:262.
44. Pandey R and Singh A. Utilization of AGVs and Machines in FMS Environment. J Material Sci Eng 2016;5: 263.
45. Mbarki R, et al. Investigation of the Flexoelectric Coupling Effect on the 180° Domain Wall Structure and Interaction with Defects. J Material Sci Eng 2016;5:264.
46. El-Eskandarany MS. Synthesizing and Characterizing of a Novel $Zr_{90}Ni_6Pd_4$ Bulk Metallic Glassy Alloy Obtained by Spark Plasma Sintering of Mechanically Alloyed Powders. J Material Sci Eng 2016;5:265.
47. Bossunia IMT, et al. γ – Irradiated Jute Reinforced Polypropylene Composites: Effect of Mercerization and SEM Analysis. J Material Sci Eng 2016;5:266.
48. Chan ASW and Sundararajan PR. Organo-gelation using Microwave Heating Source: The Case of a Polyurethane Model Compound. J Material Sci Eng 2016;4:233.
49. Elghali M and Abdellaoui M. Structural and Hydriding Properties of the LaZr2Mn4Ni5-AB3 Type Based Alloy Prepared by Mechanical Alloying from the LaNi5 and ZrMn2 Binary Compounds. J Material Sci Eng 2016;5:234.
50. Sharma S, et al. Superabsorbent Polymer Gels based on Polyaspartic Acid and Polyacrylic Acid. J Material Sci Eng 2016;5:235.

DOI: 10.4172/2321-6212.1000r005

51. Omoniyi FIS, et al. High Temperature Oxidation Resistance of $Ni_{22}Cr_{11}Al$ Bond Coat Produced by Spark Plasma Sintering as Thermal Barrier Coatings. J Material Sci Eng 2016;5:236.
52. Beiranvand MHB, et al. Separation of Vanadium Using Dispersive Liquid-Liquid Extraction. J Nucl Ene Sci Power Generat Technol 2015;5:1.
53. Singh VP, et al. Photon Interaction Parameters with Nuclear Materials. J Nucl Ene Sci Power Generat Technol 2015;5:1.
54. Shirmardi SA and Adeli MM. Effect of Electron Beam Irradiation on Strength of Iron Slag Concrete in Different Doses. J Nucl Ene Sci Power Generat Technol 2015;5:1.
55. Rawat RS, et al. Design of a Heavy Liquid Metal Neutron Spallation Target for Experimental Accelerator driven Sub-critical Reactor. J Nucl Ene Sci Power Generat Technol 2016;5:1.
56. Kumar S. Atomic Batteries: Energy from Radioactivity. J Nucl Ene Sci Power Generat Technol 2016;5:1.
57. Moneim AAA, et al. Environmental Hydrogeological Conditions of a Nuclear Power Plant Site in Egypt. J Nucl Ene Sci Power Generat Technol 2016;5:1.
58. Shirmardi SP, et al. MCNP modeling of Attenuation Coefficients of Steel, Red brass, Pearl and Beryl in comparison with Experimental and XCOM Data. J Nucl Ene Sci Power Generat Technol 2016;5:2.
59. Banaei M, et al. Physical Swelling Properties Study of a PVP Hydrogel in Aqueous Solutions by using Electron Beam (EB) Irradiation. J Nucl Ene Sci Power Generat Technol 2016;5:2.
60. Shehata MM, et al. Influence of Surfactants on the Physical Properties of Silica Nanoparticles Synthesis via Sol-Gel Method. J Nucl Ene Sci Power Generat Technol 2016;5:1.
61. Abbas N and Muhammad K. Optimization of Operating and Design Parameters of Water only Cyclone using Cherat Coal in Pakistan. J Nucl Ene Sci Power Generat Technol 2016;5:2.
62. Dawahra S, et al. Comparative Study of the HEU, LEU Fuels: Assessing the Effect of the MNSR Fuel Burnup on the Effective Multiplication Factor and Neutron Fluxes. J Nucl Ene Sci Power Generat Technol 2016;5:3.
63. Anas MS, et al. Assessment of Laboratory Performance Evaluation in Determining Al, Fe, and N Content on Some Soil Samples Based on Soil Analytical Method using Youden Plot and Ranking Test. J Nucl Ene Sci Power Generat Technol 2016;5:3.
64. Kim GY, et al. Reusability Test for Ceramic Crucibles as Liquid Cadmium Cathode Containers in Pyroprocessing. J Nucl Ene Sci Power Generat Technol 2016;5:4.
65. Hung TV and Cuong NK. Neutron Flux Characteristics in the Irradiation Channels of Dalat Reactor after Converting from HEU to LEU Fuels. J Nucl Ene Sci Power Generat Technol 2016;5:4.
66. Attar LA, et al. Recycling of a Disused 137Cs Sealed source. J Nucl Ene Sci Power Generat Technol 2016;5:4.
67. Leotlela MJ, et al. Preferential Water Ingress into a Dry Spent Fuel Cask. J Nucl Ene Sci Power Generat Technol 2016;5:4.
68. Bertani C, et al. Fluid Dynamics in Parallel Helical Pipes. J Nucl Ene Sci Power Generat Technol 2016;5:4.
69. Luo L, et al. Influence of Niobium Content on the Microstructure and Properties of W–Nb/TiC Composites Prepared by Conventional Sintering. J Nucl Ene Sci Power Generat Technol 2016;5:4.
70. Anas MS, et al. Implication of Removal of Cadmium Poison on Neutron Flux and Related Parameters in Nigeria Research Reactor - 1. J Nucl Ene Sci Power Generat Technol 2016;5:4.
71. Atta A, et al. Surface Treatment of Polypropylene Film using Cold Cathode Ion Source. J Nucl Ene Sci Power Generat Technol 2015;4:1.
72. Helal AG, et al. Structural Changes of Makrofol Polymer due to Argon Ion Beam Irradiation. J Nucl Ene Sci Power Generat Technol 2015;4:1
73. Hamad HA, et al. Operational Characteristics of a Low Energy Sputtering Ion Source. J Nucl Ene Sci Power Generat Technol 2015;4:1.
74. Hossain MK, et al. Study of Accelerator Driven System (ADS) based Green Nuclear Energy: A Review. J Nucl Ene Sci Power Generat Technol 2015;4:1.
75. Parra-Santos MT, et al. Study of Vertical Axis Turbines. J Nucl Ene Sci Power Generat Technol 2015;4:2.
76. Carvalho FP, et al. Radiological Quality of Water in Areas with Old Uranium Mines in the District of Viseu, Portugal. J Nucl Ene Sci Power Generat Technol 2015;4:2.
77. Carvalho FP, et al. Environmental Radioactivity in the Sabugal Region and Impact of Past Uranium Mining. J Nucl Ene Sci Power Generat Technol 2015;4:2.

DOI: 10.4172/2321-6212.1000r005

78. Reda SM. Reactivity Prediction Calculations for Infinite Arrays of PWR MOX Fuel Pin Cells using MCNP5 and WIMSD-5B. J Nucl Ene Sci Power Generat Technol 2015;4:2.
79. Ibrahim SMA, et al. Study of New Core Design for Typical Nuclear Research Reactor to Enhance the Heat Transfer Rate. J Nucl Ene Sci Power Generat Technol 2015;4:2.
80. Beznosov AV, et al. Bearing Pumps for Heavy Liquid Metals for Fast Reactors. J Nucl Ene Sci Power Generat Technol 2015;4:2.
81. Simone TM and Higgins PJ. Low Molecular Weight Antagonists of Plasminogen Activator Inhibitor-1: Therapeutic Potential in Cardiovascular Disease. Mol Med Ther. 2012;1:1
82. AlMousa N, et al. Radiative Heat Transport through Vapor Plasma for Fusion Heat Flux Studies and Electrothermal Plasma Sources Applications. J Nucl Ene Sci Power Generat Technol 2014;3:1.
83. Singare PU. Radiotracers in Study of Anion Exchange Resins Purolite NRW-8000 and Duolite A-171. J Nucl Ene Sci Power Generat Technol 2014;3:1
84. Fuming J. Different Countries, Similar Nuclear Safety Culture: A Study on Comparison of Nuclear Safety Cultures in China and USA. J Nucl Ene Sci Power Generat Technol 2014;3:1.
85. Ksenofontov VA, et al., Helium Induced Reduction of the Grain-Boundary Tensile Strength in Tungsten. J Nucl Ene Sci Power Generat Technol 2014;3:2.
86. Osman AM and Abdel-Monem AM. Observation of Gamma Rays from Water Activated by D-T Fusion Neutrons. J Nucl Ene Sci Power Generat Technol 2014;3:2.
87. Salehi D, et al. Estimation of Exposure Buildup Factor in Iron Using Different Methods: A Comparative Study. J Nucl Ene Sci Power Generat Technol 2014;3:2.
88. Kyei AY, et al. Modelling the Velocity Profile of Coolant Flow in the GHARR-1 Fuel Channel. J Nucl Ene Sci Power Generat Technol 2014;3:123.
89. Helal AG, et al. Study of Ion Beam Processing Using Different Materials. J Nucl Ene Sci Power Generat Technol 2014;3:3.
90. Glazoff MV, et al. Computational Thermodynamic Modeling of Hot Corrosion of Alloys Haynes 242 and HastelloyTM N for Molten Salt Service in Advanced High Temperature Reactors. J Nucl Ene Sci Power Generat Technol 2014;3:3.
91. Abdel-Sabour MF. Uranium Fixation and Removal from Different Soil Types: Review. J Nucl Ene Sci Power Generat Technol 2014;3:3.
92. Ibrahim SMA, et al. Numerical Heat Transfer Analysis in Vertical Rectangular Channels in the Core of a Typical Nuclear Research Reactor. J Nucl Ene Sci Power Generat Technol 2014;3:3.
93. Aneheim E, et al. An Organic Experiment on SN2 Chemistry which uses a Radioisotope that is used in Nuclear Medicine and is Relevant to Nuclear Accidents. J Nucl Ene Sci Power Generat Technol 2014;3:3.
94. Saleh HM. Which Is More Essential for Immobilized Radioactive Waste Form: Durability or Impermeability? J Nucl Ene Sci Power Generat Technol 2013;2:1.
95. Kansouh WA. Investigation of Heat Effect on the Shielding Properties of Some Local Concretes J Nucl Ene Sci Power Generat Technol 2013;2:1.
96. Kansouh WA. Reactor Fast and Slow Neutrons and Total Gamma Rays Distributions through Different Locally Prepared Concretes. J Nucl Ene Sci Power Generat Technol 2013;2:1.
97. Ibrahim YV, et al. Design Options of Control Rod for Low Enriched Uranium Fueled NIRR-1 Using Monte Carlo N-Particle Code. J Nucl Ene Sci Power Generat Technol 2013;2:1.
98. Saleh HM. Leachability of Solidified Degraded Radioactive Cellulosic-Based Wastes. J Nucl Ene Sci Power Generat Technol 2013;2:1.
99. Abdelrahman MM. Ion Beam Simulation Using a Lens System for Acceleration and Deceleration of Low Energy Ion Beam. J Nucl Ene Sci Power Generat Technol 2013;2:1.
100. Abdelrahman MM. Plasma and Ion Sources Applications. J Nucl Ene Sci Power Generat Technol 2013;2:2
101. Abutalib N, et al. Surface Modification of Silica Fume with Amine Groups to Reduce Agglomeration and Improve Asphalt Resistance to Oxidation. Res Rev J Mat Sci 2016;5:159
102. Dhanalakshmi S, et al. Elevated Temperature Properties of Extruded Aluminium Matrix Composites Reinforced with Nickel Coated Silicon Carbide Particles. Res Rev J Mat Sci 2016;5:161
103. Guggilla P, et al. Reducing the Bandgap Energy via Doping Process in Lead-Free Thin Film Nanocomposites. Res Rev J Mat Sci 2016;5:162

DOI: 10.4172/2321-6212.1000r005

104. Prasad B and Rajya Lakshmi N. Calculation of Activation Energy, Frequency Factor and Avrami Exponent of Amorphous Fe76Pr4B20 and Fe76Dy4B20 Alloys on the Basis of Crystallization Kinetics. Res Rev J Mat Sci 2016; 5:163
105. Antunes JC, et al. Chitosan/Poly(γ-glutamic acid) Polyelectrolyte Complexes: From Self- Assembly to Application in Biomolecules Delivery and Regenerative Medicine. Res Rev J Mat Sci 2016;4:153
106. Gayatri U, et al. Fabrication and Testing of Composite Powder Material from Prawns Shells. Res Rev J Mat Sci 2016;4:154
107. Mizoshiri M and Hata S. Direct Writing of Cu-based Micro-temperature Sensors onto Glass and Poly(dimethylsiloxane) Substrates Using Femtosecond Laser Reductive Patterning of CuO Nanoparticles. Res Rev J Mat Sci 2016;4:155
108. Goyal S and Ghildiyal A . Nanotechnology - A Path to a Sustainable Future. Res Rev J Mat Sci 2016;4: r004
109. Guangming Xu. (The Mechanism Research of Electric Current Pulse and Electromagnetic for Grain Refinement of 6181 Aluminum Alloys During Two-roll Casting. Res Rev J Mat Sci 2016;4:133
110. Fermin JR. Surface Magneto-Optical Kerr Effect Study of Magnetization Reversal in Epitaxial Fe(100) Thin Films. Res Rev J Mat Sci 2016;4:134
111. Hawachi I. Numerical Study of the Mechanical Behavior of Polymer Concrete. Res Rev J Mat Sci 2016; 4: 135
112. Singh K. Composition Dependence of Effective Thermal Conductivity and Effective Thermal Diffusivity of Se98-XCd2Inx (X=0, 2, 6, 10) Glassy Alloys. Res Rev J Mat Sci 2016;4:136
113. Aman A. Behavior of Current Flow on Lead Zirconate Titanate Surfaces during Mechanical Impact. Res Rev J Mat Sci 2016;4:137
114. Nayebossadri S. Hydrogen Permeation through Porous Stainless Steel for Palladium based Composite Porous Membranes. Res Rev J Mat Sci 2016;4: 138
115. Iqbal R, et al. Calculations of AmO2 and PuO2 Materials. Res Rev J Mat Sci 2016;4:139
116. Tiance AN and Zhang L. Versatile Flexible Azolate-based Metal-Organic Frameworks Possessing Different Bridging Ligands. Res Rev J Mat Sci 2016;4:140.
117. Jain D and Avchare KR. Design, Fabrication and Testing of Low Cost Magneto- Rheological Fluid Brake Testing Machine. Res Rev J Mat. Sci 2016;4:139.
118. Ktifa S and Ezzaouia H. Thermal Conductivity of Silicon Thin Films Deposited On Porous Alumina by PECVD. Res Rev J Mat. Sci 2016;4:142.
119. Elsalamony RA. Advances in Photo-catalytic Materials for Environmental Applications. Res Rev J Mat Sci 2016;4:145.
120. Jain D and Avchare KR. Design, Fabrication and Testing of Low Cost Magneto- Rheological Fluid Brake Testing Machine. Res Rev J Mat Sci 2016;4:141.