Index

January-February 2012

Articles

- **ANUPAM-Adhya Supercomputer**  
  K. Rajesh, K. Bhatt, D.D. Sonvane, K. Vaibhav, V. Duggal, U. Karnani, N. Chandorkar,  
  K.R. Koli, R.S. Mundada and A.G. Apte  
  Computer Division

- **Biosensors for Environmental and Clinical Monitoring**  
  Jitendra Kumar and S. F. D’Souza  
  Nuclear Agriculture and Biotechnology Division

- **Estimation of Shutdown Reactivity in Power Reactor: Comparative Study of Inverse Point Kinetics and Kalman Filtering**  
  T.U. Bhatt, S.R. Shimjith and A.P. Tiwari  
  Reactor Control Division

- **Fuel Handling System Training Simulator for 540 MWe PHWR**  
  Vinaya Kumar  
  Fuel Handling Control Section, Electronics & Instrumentation Group

- **Groundwater Contamination Problems in Rural India: Detection and Remediation at the Household Level**  
  S.C. Chaurasia, A.C. Sahayam, G. Venkateswarlu, S.M. Dhavile, S. Thangavel, L. Rastogi,  
  T. Mukherjee  
  Chemistry Group

- **Ultrasonic Phased Array Examination for BWR Pressure Vessel**  
  N. Jothilakshmi, P.P. Nanekar and B.K. Shah  
  Quality Assurance Division

- **Understanding of Ternary Fission in Heavy-Ion Induced Reactions.**  
  Y.K. Gupta, R.K. Choudhury and A. Chatterjee  
  Nuclear Physics Division

Brief Communications

- **Four-Piece Servo Manipulator**  
  Design, Manufacturing & Automation Group

- **Periscope for In-Service Inspection of PFBR**  
  Design, Manufacturing & Automation Group

- **Single Photon Emission Computed Tomography for Nuclear Applications**  
  Physics Group

- **TPLC – 32: Trombay 32 bit Programmable Logic Controller Platform**  
  Electronics & Instrumentation Group
March-April 2012

Articles

- **Design and Application of a Formal Verification Tool for VHDL Designs**
  Reactor Control Division

- **Development and Fabrication of LEU Plate Fuel for Modified Core of APSARA Reactor**
  G. J. Prasad, V. P. Sinha, P.V. Hegde
  Metallic Fuels Division

- **Development of Carbon / Carbon Composites for Nuclear Reactor Applications**
  Ramani Venugopala, D. Sathiyamoorthy, A K. Tyagi
  Powder Metallurgy Division & Chemistry Division

- **Frontiers in Science of Cutting Edge Technologies: Physics Group in BARC**
  S. Kailas
  Physics Group

- **Photocatalytic Hydrogen Generation from Water using Solar Radiation**
  R. Sasikala and S. R. Bharadwaj
  Chemistry Division

- **Searching for the Proverbial Needle in a Haystack: the Information Dilemma**
  Sangeeta Deokattey and K. Bhanumurthy
  Scientific Information Resource Division

- **Zinc Oxide Nanowires for Gas Sensing Application**
  Niranjan Ramgir, Niyanta Datta, Manmeet Kaur, S. Kailasaganapathi, A.K. Debnath,
  D K. Aswal and S.K. Gupta
  Technical Physics Division

Brief Communications

- **Controlled Uptake and Release of Phototherapeutic Porphyrin Dye using Surface Functionalized Silver Nanoparticle Conjugates**
  Chemistry Group

- **Designing Novel Nanomaterials for Application in Nuclear Waste Management**
  Chemistry Group

- **Development of Peptide Mimic Shell Cross-linked Magnetic Nanocarriers for Theragnostic Applications**
  Chemistry Group

- **Hot Vacuum Extraction- Quadrupole Mass Spectrometry (HVE-QMS) for Ageing Management of Zr-Nb Coolant Channels**
  Radiochemistry and Isotope Group

- **Photochemotherapy by Coralyne and UVA (CUVA): A Novel Strategy for Cancer Management**
  Chemistry Group
• Preparation and Characterization of (U_{0.47},Pu_{0.53})O_2 Microspheres for Test Pin Irradiation in FBTR
  Radiochemistry and Isotope Group

May-June 2012

Articles

• Characterization of Deformation Microstructure using Transmission Electron Microscopy: Observation of Cube Slip in γ-TiAl Alloys at Elevated Temperatures
  Jung B. Singh
  Mechanical Metallurgy Division

• Development of Fluidized Bed Thermal Denitration
  Neetu A. Baveja, C.P. Shringi, Gaurav Varshney, Deepa Thomas, Sandip Bhowmick, N.K. Dandekar, M.Y. Walke and Hanmanth Rao
  Chemical Engineering Division

• Early Detection of Coronary Heart Disease Using Peripheral Pulse Analyzer
  Electronics Division

• MetProSoft-10: Image Analysis Software for Metallographic Measurements
  Lizy Pious, S. Kar and V.M. Joshi
  Electronics & Instrumentation Services Division

• Passive Gamma Scanning : a Powerful Tool for QC of MOX Fuels
  K.V. Vrinda Devi and J.P. Panakkal
  Advanced Fuel Fabrication Facility, Nuclear Fuels Group

• Studies on Improvements in Thoria Dissolution Process for Reprocessing Application
  C. Srinivas, Vrunda Yalmali, A.S. Pente, P.K. Wattal and S.D. Misra
  Nuclear Recycle Group

Brief Communications

• Development of Metal – Ceramic Seals for Neutron Detectors
  Materials Group

• Development of Plate Thermometer (PT) or Heat Flux Measurement
  Reactor Design & Development Group

• Force Reflecting Telerobot
  Design Manufacturing & Automation Group

• H_2-F_2 Flame Reactor Technology for Nuclear Material Processing
  Chemical Technology Group
July-August 2012

Articles

- **Bioremediation: Discovery of a Novel Alkaline Phosphatase through X-Ray Crystallography**
  Subhash C. Bihani, Shree Kumar Apte, Jean-Luc Ferrer and Madhusoodan V. Hosur
  Solid State Physics Division and Molecular Biology Division

- **Discovery of Higgs Boson: the God particle**
  A.K. Mohanty
  Nuclear Physics Division

- **DNA Repair and Recombination Proteins (Dmc1 and Rad51) from Rice (Oryza sativa)**
  Rajani Kant Chittela and Jayashree K. Sainis
  Molecular Biology Division

- **Improved Location of Earthquakes in Sumatra Region using Gauribidanur Seismic Array Data**
  Manoj Kumar and Falguni Roy
  Seismology Division

- **Marx Generator and Reflex Triode based High Power Pulsed Microwave Source**
  Accelerator and Pulse Power Division

- **Performance Study of Indigenously Developed CsI-Photodiode Linear Array Detectors for X-Ray Baggage Scanning Application**
  Anita Topkar, Arvind Singh, P.K. Mukhopadhyay and C.K. Pithawa and Umesh Kumar and Y. Lakshminarayana
  Electronics Division & Isotope Application Division

- **Recovery of Cesium from High Level Liquid Nuclear Waste by an Advanced Polymer Composite**
  Lalit Varshney, V. Venugopal, Amar Kumar, Tessy V. and S.D. Misra
  Radiochemistry and Isotope Group and Nuclear Recycle Group

Brief Communications

- **Design and Development of Metallic Face Seal for AHWR fueling Machine**
  Reactor Design & Development Group

- **Development of Continuous Rotary Dissolver (CRD)**
  Nuclear Recycle Group

- **Evaluation of Tripodal / Calixarene Based Diglycolamides for Actinide Extraction**
  Radiochemistry and Isotope Group

- **Integrated Δ-E Silicon Detector Telescope**
  Electronics & Instrumentation Group
• *Meso*-and B-Substituted Pyromethene Fluorophores as New Photo-stable Laser Dyes
  Chemistry Group

• Ultra High Precision Wave Length Scanning Mechanism
  Design, Manufacturing and Automation Group

September-October 2012

Articles

• Advanced Research on Master Curve for Safety Assessment of Reactor Pressure Vessel
  *J. Chattopadhyay, B.K. Dutta and K.K. Vaze & S. Acharya*
  Reactor Design & Development Group

• Decontamination of Alpha Contaminated Metallic Waste by Cerium IV Redox Process
  *J. G. Shah, P. S. Dhami, P. M. Gandhi and P. K. Wattal*
  Nuclear Recycle Group

• Design, Development and Deployment of Special Sealing Plug for 540 MWe PHWRs
  *G. Sharma, S. Roy, R.J. Patel*
  Refuelling Technology Division

• Genetic Analysis of Type 2 Diabetes.
  *Suresh KG Shettigar, C. Shailaja and Ratnakar K. Kulkarni*
  Pathology Unit, Medical Division

• Non-Invasive Blood Pressure Monitor: Beat to Beat
  *Vineet Sinha, R.K. Jain, G.D. Jindal and C.K. Pithawa*
  Electronics Division

• Self Assembled Systems: Design and Drug Delivery Perspectives.
  *Gunjan Verma, Jayita Bhattacharjee and P. A. Hassan*
  Chemistry Division

Brief Communications

• Development of a 400 keV Radio Frequency Quadrupole
  Physics Group

• Tetrofosmin Kits for Myocardial Perfusion Imaging
  Radiochemistry and Isotope Group

• Ultrafast Dynamics Investigations: Development of Femtosecond Time-Resolved Infrared Spectrometer
  Chemistry Group

• Unveiling the Mechanism of Extreme Radiation Resistance in *Deinococcus radiodurans* by
  Comparative Proteomics
  Bio-Medical Group.