

## A. Journal Article

1. Arunmozhi G., Ganesamoorthy S.\*, Kannan C.V., Ramasamy P., Gomes E.De.M.  
Crystal Growth, dielectric and FIR reflectivity studies on PZN(0.91)-PT(0.09) single crystals  
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2. Banerjee Arup\*, Autschbach Jochen, Ziegler Tom  
A gauge-origin independent expression for the Verdet constant within the time-dependent density functional theory  
*International Journal of Quantum Chemistry*, vol. 101, no. 5, p. 572-578, 2005
3. Bapat, R.K., Singh K., P. Subramanian, G. S. Lodha\*  
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4. Bhaumik Indranil, Ganesamoorthy S., Karnal A.K., Wadhawan V.K.  
A study on colouration and axial variation of composition in the single crystal of lead tungstate grown by Czochralski technique  
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5. Bindra K.S.  
Influence of free carrier refraction due to linear absorption on Z-scan study of porous Si  
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Component tolerances analysis of a parallel resonant magnet excitation scheme for rapid cycling synchrotron using Pspice  
*Journal of Circuits, Systems and Computers*, vol. 14, no. 3, June 2005 (In press)
7. Chattopadhyay, M.K., Roy, S.B., Chaddah, P.  
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Effect of dielectronic recombination on the charge state distribution and soft x-ray line intensity of laser produced carbon plasma  
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PH dependent binding of chlorin-p6 with phosphatidyl choline liposomes  
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Photophysics of Coumarin 500 and Coumarin 151 in AOT reverse micelles",  
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Rotation of transparent, nonbirefringent objects by transfer of the spin angular momentum of light  
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Excitonic signatures in the photoluminescence and terahertz absorption of a GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As multiple quantum well  
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13. Ganesamoorthy S.\*, Nakamura M., Takekawa S., Kumaragurubaran S., Terabe K., Kitamura K.  
A comparative study on the switching characteristics of near stoichiometric LiNbO<sub>3</sub> and LiTaO<sub>3</sub> single crystals grown by DCCZ  
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Self-diffusion of iron in nano-crystalline iron nitride  
*Material Science Forum*, vol. 480-481, p. 557-564, 2005
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Relevance vector machine for optical diagnosis of cancer  
*Lasers in Surgery and Medicine*, vol. 36, no. 4, p. 323-333, Apr. 2005
  28. Majumder S. K., Ghosh N., Gupta P. K.,  
Support vector machine for optical diagnosis of cancer  
*Journal of Biomedical Optics*, vol. 10, no. 2, p. 024034-, 2005
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Buffer-assisted low temperature growth of high crystalline quality ZnO films using Pulsed Laser Deposition  
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Characterization of laser-diode end-pumped intracavity frequency doubled, passively Q-switched and mode-locked Nd:YVO<sub>4</sub> laser  
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Phosphorous passivation of In<sub>0.53</sub>Ga<sub>0.47</sub>As using MOVPE and characterization of Au-Ga<sub>2</sub>O<sub>3</sub>(Gd<sub>2</sub>O<sub>3</sub>)-In<sub>0.53</sub>Ga<sub>0.47</sub>As MIS capacitor  
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Time-gated optical imaging through turbid media using stimulated Raman scattering: Studies on image contrast  
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First order magneto-structural phase transition in various functional materials  
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Sharp magnetization step across the ferromagnetic-to-antiferromagnetic transition in doped CeFe<sub>2</sub> alloys  
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Comment on 'Commented review, Ucu<sub>2</sub>Ge<sub>2</sub> and Ucu<sub>2</sub>Si<sub>2</sub> -

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Laser Melting of Graded Composite Coating (Fe-SiC-Ni-Cr) on AISI 316L Stainless Steel,  
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Confined acoustic modes and spectral determination of network connectivity: Raman signatures of nanometric structure in g-GexSe1-x  
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Dynamics of all-optical switching in polymethine dye molecules,  
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Low power spatial light modulator with pharaonins phoborhodopsin  
*Thin Solid Films*, vol. 477, p. 227-232, 2005
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All-optical switching characteristics of metalloporphyrins  
*Optics Communications*, vol. 245, no. 1-6, P. 407-414, Jan. 17, 2005
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Optimized Dual Temperature Pulsed Laser Deposition of TiO<sub>2</sub> to Realize MTOS (Metal-TiO<sub>2</sub>-SiO<sub>2</sub>-Si) Capacitor with Ultrathin Gate Dielectric  
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Sample preparation for evaluation of detection limits in X-ray fluorescence spectrometry  
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Fluorimetric estimation of the concentration of NADH from human blood samples  
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Second harmonic generation in a laser channel  
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  61. Verma S.\*, Srivastava A., Prabhakar V., Murlidhar K., Wadhawan V.K.\*  
Simulation and experimental verification of solutal convection in the initial stages of crystal growth from an aqueous solution  
*Indian Journal of Pure and Applied Physics*, vol. 43, no. 1, p. 24-33, Jan. 2005
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Electron self-injection and acceleration driven by a tightly focused intense laser beam in an underdense plasma  
*Physics of Plasmas*, vol. 12, p. 013105-, 2005
  63. Yalavarthy P.K., Karlekar K., Patel H.S.\*, Vasu R.M., Pramanik M., Mathias P.C., Jain B.\*, Gupta P.K.\*  
Experimental investigation of perturbation Monte-Carlo based estimation for imaging low-scattering issue  
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- ### B. Invited Talks
1. Banerjee Arup  
Bose-Einstein Condensates of Atoms Gases: Theoretical Understanding  
*NLS-4*, BARC, Mumbai, Jan 10-13, 2005
  2. Bapna S.C., Banwari R., Venkateswaran S.V., Kasliwal A., Pramod R, Kumar Pankaj, Upadhyay Amit, Goyal Neeraj, Ramachandran C.K., Kumar Ajay  
Development of DC Accelerator at CAT, Indore  
*Indian Particle Accelerator Conference 2005*, VECC Kolkata, March 1-5, 2005
  3. Bartwal K. S.  
Lithium niobate structure modification on MgO doping  
*X National Seminar on Crystal Growth*, Erode, TN, January 27-29, 2005.
  4. Chari Rama  
Exciton dynamics in quantum wells using ultrafast pump-probe spectroscopy,  
*NLS-4*, BARC, Mumbai, Jan 10-13, 2005
  5. Chari Rama  
Fibre nonlinearity as a monitor of ultrashort pulse characteristics,  
RR Dasari distinguished lecture series Laser Technology, Laser spectroscopy & optoelectronics, IIT Kanpur, Feb 28,

- 2005
6. Ganesamoorthy S.  
Dielectric and coercive field studies on near stoichiometric  $\text{LiTaO}_3$   
**91<sup>st</sup> meeting on Crystal Growth and Optical Devices**, National Institute for Materials Science, Tsukuba, Japan, April 14, 2005.
  7. Gupta P.D.  
Laser-Plasma Interaction : Recent Studies, Diagnostics and Applications  
**NLS-4**, BARC, Mumbai, Jan. 10-13, 2005
  8. Gupta P.K.  
Laser induced fluorescence spectroscopy for cancer diagnosis  
**Discussion meeting on Advances in Spectroscopy, Department of Inorganic and Physical Chemistry, IISc**, Feb. 21-24, 2005.
  9. Gupta P.K.  
Optical techniques for imaging, diagnosis and manipulation of biological material  
**XXX Optical Society of India Symposium on Optics and Opto-Electronics (SOOP-05)**, National Physical Laboratory, New Delhi, Jan. 19-21, 2005.
  10. Gupta P.K.  
Polarized auto-fluorescence spectroscopy for cancer diagnosis”,  
**International Topical Conference in Applied Photonics “Superresolution and Photonics”**, SINP, Kolkata, Feb. 15-16, 2005.
  11. Kaul Rakesh  
Some Recent Studies on Laser Cladding and Dissimilar Laser Welding, **International Conference on Lasers, Applications and Technologies (LAT 2005)**, St. Petersburg, Russia, May 11-15, 2005
  12. Karnal A.K.  
Progress in the growth of non-linear optical borate crystals, with emphasis on CLBO and its glassy nature.  
**NLS-4**, BARC, Mumbai, Jan. 10-13, 2005, p. 37-38
  13. Kukreja L.M.  
3rd National Conference on Thermophysical Properties  
Thermophysical Society of India, Goa University, Goa, Jan.19–20, 2005.
  14. Kukreja L.M.  
Workshop on Optical Thin Film Coatings  
DRDO (IRDE), Dehradun Mar. 11–12, 2005.
  15. Majumder S.K., Gupta P.K.  
Statistical Pattern recognition for early diagnosis of oral cancer”.  
**NLS-4**, BARC, Mumbai, Jan. 10-13, 2005
  16. Mishra S.R.  
Lecture on “Atom interferometry”,  
**ILA course during NLS-4**, Mumbai 2005.
  17. Misra Pankaj  
ZnO nanostructures for UV-Blue Photonics  
**Current Trends in Condensed Matter Physics & Materials science**, Department of Physics, Rajkot University, Feb. 28, 2005
  18. Nakhe S.V.  
Copper Vapor Laser global scenario, developments at CAT & future.  
**NLS-4**, BARC, Mumbai, Jan 10-13, 2005
  19. Nath A K., Kumar Manoj  
Optimization studies for efficient production of C13 isotope using TEA  $\text{CO}_2$  laser, **International Conference on Lasers, Applications and Technologies (LAT 2005)**, May 11-15, St. Petersburg, Russia.
  20. Rawat H.S.  
Lecture on “Fundamental of laser atom cooling”,  
**ILA course during NLS-4**, Mumbai 2005.
- C. Seminars / Conference Presentations**
- C1. InPAC-2005, VECC Kolkata, March 1-5, 2005.**
1. Agrawal R.K., Sheth Y., Saifee K., Seema M., Chauhan A., Gangopadhyay S., Fatnani P., Bhujle A.G.  
Ramping scheme for magnet power supplies of SRS Indus-2
  2. Ashoka H., Bagre M., Jain V., Khare P., Puntambekar A., Yadav A.  
Modified “Series” testing scheme for testing of large number of SC corrector magnets
  3. Banwari R., Upadhyay Amit, Kasliwal Apollo, Pandit T.G., Kotaiah S.  
Scanning magnet power supply for 10 MeV linac
  4. Bapna S.C., Banwari R., Venkateswaran S.V., Kasliwal A., Pramod R., Kumar Pankaj, Upadhyay Amit, Goyal Neeraj, Ramachandran C.K., Kumar Ajay  
Development of DC accelerators at CAT, Indore
  5. Borage Mangesh, Tiwari Sunil. Kotaiah Swarna  
A measurement setup for conducted emi in power supplies
  6. Dutta Shubhajit, Goswami S.G., Kumar A., Soni H.C., Rao B.T., Kaul R., Nath A.K., Ruwali K.  
Engineering design, fabrication and testing of prototype scanning magnet for ARPF at CAT
  7. Goyal Neeraj, Kumar Ajay, Rajesh M.V., Bapna S.C.  
Microcontroller based safety interlock system
  8. Holikatti A.C., Puntambekar T.A., Banerji Anil, Kotaiah S.  
VME bus based fast ADC card for Indus-2 tune measurement system
  9. Jain M.K., Deo R.K., Hannurkar P.R.  
Realization of high power coaxial low pass filter for Indus-2 RF System.
  10. Jain M.K., Deo R.K., Hannurkar P.R., Kotaiah S.  
Reliaization of a narrow band coaxial dummy load for Indus-2 RF power system
  11. Jain S.K., Hannurkar P.R.  
First beam results and status of ECR proton source at CAT,
  12. Joshi S.C., Kane G.V., Raghvendra S., Chinnathambi S., Oraon B., Jain A. K.  
Proposed schemes for fabrication of 4.5 MeV, 350 MHz prototype RFQ structure
  13. Kasliwal Apollo, Upadhyay Amit, Banwari R., Pandit T.G. Kotaiah Swarna

- Upgradation of PC based control system for 750 keV DC accelerator
14. Kotaiah S., Banerjee A., Bhujle A.G., Fatnani P., Hannurkar P.R., Karmarkar M.G., Jain A.K., Kekre A.M., Prabhu S.S., Mishra R.K., Kumar Pravin M., Sahni V.C., Shinde R.S., Shukla S.K., Singh Gurnam  
Present status of synchrotron radiation source Indus-2
  15. Kumar Abhay, Petwal V.C., Dutta S., Sandha R.S., Soni H.C.  
Scanning magnet current profile and dose uniformity evaluation for ARPF
  16. Kumar Narendra, Joshi S.C., Sharma N.K.  
Study of temperature distribution in one meter RFQ structure considering the effect of coolant flow
  17. Kumar Pankaj, Bapna S.C., Venkateswaran S.V., Pramod R., Kumar Ajay, Goyal Neeraj, Kaul A., Petwal V.C., Oak M.S., Soni H.C.  
Irradiation experiments with 750 keV DC Accelerator
  18. Murthy V. Madhu\*, Dwivedi J.\*, Goswami S.G.\*, Kumar Abhay\*, Soni H.C\*. Parma Vittorio  
Quality assurance in design, manufacturing and supply of precision alignment jacks for LHC, CERN
  19. Murthy Y.R.C., Kokil S.V., Chauhan S.K., Kane G.V., Joshi S.C.  
Measurement setup for testing of drift tube quadrupole magnets
  20. Naik P.A., Gupta P.D.  
Laser-plasma based electron acceleration studies planned at CAT, Indore
  21. Parchani G., Suresh N., Haridas G.  
A study on influence of particle distribution of mix on radiation attenuation properties of concrete
  22. Petwal V.C.\*, Senecha V.K.\*, Soni H.C.\*, Kotaiah S.\*, Subbaiah S.V.  
Photoneutron production studies in metallic targets using high-energy electron accelerator
  23. Petwal V.C.\*, Sandha R.S.\*, Soni H.C.\*, Subbaiah K.V.  
Biological shielding design calculation for agricultural radiation processing facility
  24. Pramod R, Bapna S.C.  
Beam studies for 400 keV DC accelerator
  25. Puntambekar T.A., Holikatti A.C., Banerji Anil, Kotaiah S.  
Microcontroller based interface unit for Indus-2 beam scraper
  26. Raghvendra S., Joshi S.C.  
Design of vacuum system for 4.5 MeV RFQ
  27. Ram Sankar P., Singh A.P., Khattak B.Q., Vyas S.N., Jain A.K.  
Chemical cleaning of aluminium alloys of Indus-2 for welding and vacuum applications
  28. Rawat Anil, Rajan Alpana, Tomar Shailendra S., Bansal Anurag  
Exploiting database technology for object based event storage and retrieval
  29. Rawat Anil, Rajan Alpana, Lakshminarayanan K.  
GSL: A solution to scientific library requirements for computing
  30. Rawat Anil, Rajan Alpana, Chaudhari Swati  
Building a cluster for scientific computing needs: Evaluation of options
  31. Rawat Anil, Rajan Alpana, Thander P.K.  
Grid computing: An approach to address computing needs for accelerator projects
  32. Ruwali Kailash, Karmarkar M.G.  
Transfer line magnets for agricultural radiation processing facility at CAT
  33. Ruwali Kailash, Valecha Anand, Sreeramulu K., Karmarkar M.G.  
Magnetic measurements of series open type quadrupole magnets for Indus-2
  34. Sandha R.S., Rao J. Negeshwar, Dwivedi Jishnu, Petwal V.C., Soni H.C.  
Pilot material handling system for radiation processing of agricultural and medical products
  35. Sharma N.K., Joshi S.C., Kumar Narendra, Raghvendra S.  
Optimization of cooling circuit for 350 MHz 4.5 MeV RFQ for proposed high power linac
  36. Sreeramulu K., Kulshreshta P.K., Dwivedi Jishnu, Singh Laxman, Karmarkar Mangesh  
Support System For Alignment Of Indus-2 Magnets,
  37. Suhane S.K., Nathwani R.K., Puntambekar T.A., Banerji Anil, Kotaiah S.  
A set-up for installing parametric current transformer in Indus-2
  38. Thipsay A.P., Kotaiah S., Thakurta A.C., Banwari R., Tiwari S., Singh S.N., Renukanath P.  
Power supply development at CAT by accelerator power supplies division
  39. Tiwari Sunil, Borage Mangesh, Kotaiah Swarna  
Indus-2 quadrupole magnet power supplies
  40. Valecha Anand, Ruwali Kailash, Das Subrata, Karmarkar M.G.  
Magnetic measurement of transfer line magnets for Indus-2
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