

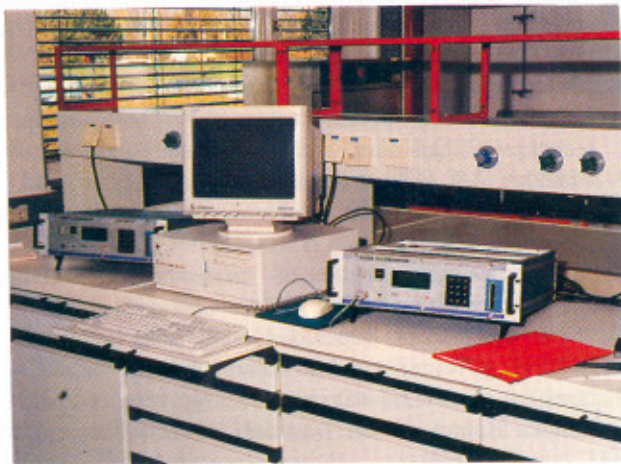
- Trivedi, XIth Intl. Symp. on gas flow and chemical lasers and high power laser conf., Heniot Wätt Univ, Edinberg, Aug. 25-30 (1996).
6. "Design paramerters of convective cooled high power CW CO<sub>2</sub> lasers", A K Nath, P Choudhary, A K Biswas, Paper (CThI37) accepted for presentation in CLEO/Europe-EQEC'96, Sept.8-13, (1996), Hamburg, Germany.
  7. "Development of a high power CO<sub>2</sub> laser for material processing applications", A K Nath, P Choudhary, A K Biswas, S Soni, Harish Kumar, 6th European conference on laser treatment of materials, Sept. 16-18, 1996, Stuttgart, Germany.
  8. "In-vitro studies on human breast malignancy using N<sub>2</sub> laser excited autofluorescence spectroscopy", S K Mujumdar, A Uppal and P K gupta, Tutorial lectures, 6<sup>th</sup> Intl conf on laser application in life sciences, Jena, Germany, Sept 23-27 (1996).
  9. "Automated intelligent mailing system over a LAN", Anil Rawat, Annual Technical Conference of IETE India, New Delhi, Sept. 30 - Oct. 1st (1996).
  10. "A tensor classification of twinning in ferroic and non ferroic crystals", V K Wadhawan, Invited talk, IXth National seminar on ferroelectrics and dielectrics (NSFD - IX), NPL, New Delhi, Oct 8-11 (1996).
  11. "Kinetics of formation of the pyrochlore phase in powders of sol-gel derived PZT", V S Tiwari, Arun Kumar, V K Wadhawan and D Pandey, *ibid*.
  12. "Hysteresis in thermal properties of amorphous silicon dioxide", Shailendra Kumar, International Conf. on semiconducting materials and technology, University of Delhi, 1996.
  13. "Minimum-Flux-Change criterion for the electromagnetic response of irreversible superconductors", P Chaddah and K V Bhagwat, Invited talk, International Symposium on Advances in Superconductivity : New Materials, Critical Currents and Devices, TIFR, India (1996).
  14. "Vortex Breaking in 3D Josephson Junction Array", Mahesh Chandran, *ibid*.
  15. "Hysteresis in thermal properties of YBaCuO and amorphous SiO<sub>2</sub> thin films", Shailendra Kumar, Dinesh K Sharma, S P Pai and R Pinto, *ibid*.
  16. "Experimental study of gain and saturation intensity in a high power transverse flow CW CO<sub>2</sub> laser", A K Biswas, P Kishore Kumar and A K Nath, Proc. Nat. Symposium on high power lasers, Defence Science Centre, New Delhi (1996).
  17. "Proposed control system for magnet power supplies in Indus-2 synchrotron", B J Vaidya, International Workshop on controls for small and medium scale accelerators, KEK, Tsukuba, Japan, Nov 11-15, 1996.
  18. "Experiences with the control system of Indus-1 booster synchrotron", B J Vaidya, J S Adhikari, Y Sheth, *ibid*.
  19. "Present status & future plans of Indus-1 & 2 and other accelerator programmes at CAT", G Singh, Invited talk, Physics and technology of particle accelerators and their applications, Calcutta, Nov 26-29 (1996).
  20. "Effect of ground vibrations on synchrotron light source Indus-2", G K Sahoo and G Singh, *ibid*.
  21. "Collective beam instabilities in booster synchrotron", Deepa Angal, A D Ghodke and G Singh, *ibid*.
  22. "Transfer line for radiotherapy microtron at CAT", Deepa Angal, Pradeep Kant and G Singh, *ibid*.
  23. "Septum magnet for Indus-1", R K Mishra, *ibid*.
  24. "Microtron magnet for 8 MeV electron beam", R K Mishra, *ibid*.
  25. "Best match algorithm for floating transactions in an on-line transaction processing environment", Anil Rawat, ROVPIA 96 (International conference on robotics vision and parallel processing for industrial automation), Ipoh, Malaysia, Nov. 28-30 (1996).
  26. "CeRu<sub>2</sub>: a novel f-electron system with interesting normal state and superconducting properties", S B Roy, invited talk, DAE Solid State Phys Symp. BARC, 1996.
  27. "Study of specific heat and thermal diffusivity of GMR La<sub>0.8</sub>Ba<sub>0.2</sub>MuO<sub>3-x</sub> pellets using the photopyroelectric technique", Shailendra Kumar, A K Rajarajan, S B Roy, P Chaddah, A K Gulnan, Ram Prasad and NC Soni, *ibid*.
  28. "Temperature dependence of resistance in Ir substituted CeFe<sub>2</sub>", A K Rajarajan, S B Roy and P Chaddah, *ibid*.
  29. "Magnetic susceptibility of an inductively coupled Josephson junction array", Mahesh Chandran, *ibid*.
  30. "New designs for superconducting MRI magnets", P Chaddah, R Rajput and A K Rajarajan, *ibid*.
  31. "Design of a 5.0T superconducting wiggler magnet", Renuka Rajput, Anjan Dastidar, SP Mhaskar and MG Karmarkar, *ibid*.
  32. "Effect of 80 MeV Si ion irradiation on C<sub>60</sub> films", S Lodha, D K Awasthi, Alka Ingale, K C Rustagi, Pratima Dhuri and Ajay Gupta, *ibid*.
  33. "Fluorescence from C<sub>60</sub> doped porous glass", Alka Ingale, M P Joshi, L M Kukreja and K C Rustagi, *ibid*.
  34. "Growth and characterisation of CdS nanoparticle thin film by Langmuir Blodgett technique", U N Roy, Alka Ingale, B L Dashora, L M Kukreja and K C Rustagi, *ibid*.
  35. "Structure and composition of pulsed laser deposited ZnSe thin films", Tapas Ganguli, B L Dashora, P Bhattacharya, L M Kukreja, P Bhatnagar, H S Rawat, Madan Lal and Ajay Gupta, 3rd Intl. conf. and intensive tutorial course on semiconductor materials and technology, Delhi, Dec. 16-21, 1996.
  36. "Fully secured fax based tender receiving system", Alpana Rajan and A.K. Gupta, Workshop on image processing and analysis, Visakhapatnam Dec. 27-28 (1996).

## OTHER ACTIVITIES / NEWS

### Colloquia Held

1. "Atoms dancing in an optical potential", MK Harbola, CAT.
2. "Fluorescence lifetime imaging microscopy and its applications in signal transduction", S Kher, CAT.
3. "Design of an undulator beamline for circularly polarised synchrotron radiation", KJS Sawhney, CAT.
4. "Ultralong range optical fiber distributed temperature sensors", WA Gambling, City University of Hong Kong.
5. "Multilayer X-ray optics", K Yamashita, Nagoya Univ, Japan.

6. "Ultrafiltration through synthetic P (AN-CO-AA) and P(AN-CO-MA) membrane", MS Oak, CAT.
7. "Some laser based instruments for chemical industries", C Manohar, BARC, Mumbai.
8. "Laser-Plasma interaction with short pulsed lasers", P A Naik, CAT.
9. "Microlithography, LIGA and their applications", LM Rangarajan, CAT.
10. "Low Power laser effects on biological systems", Tiina Karu, Laser Technology Res. Centre Russian Federation.
11. "High Power monoethic phase-locked semiconductor diode laser arrays", Arnas Bhattacharya, Univ of Wisconsin, USA
12. "Plasma lasers for focusing relativistic electron beams at Lawrence Berkeley National Lab", Richa Govil, Lawrence Berkeley National Lab, USA.



**Laser Fluorimeters built at CAT**

DAE has donated two Laser Fluorimeters built at CAT to Siebersdorf Laboratories of IAEA in VIENNA. These fluorimeters are used for detection of Uranium up to 0.5 ppb. They use sealed-off Nitrogen laser developed in CAT. The software in PC acquires the data (laser power and fluorescence) from the fluorimeter through a serial interface and can plot it on-line. This instrument has been evaluated by chemists from Reactor chemistry section, Reactor services & maintenance division as well as Fuel reprocessing division of BARC and was found suitable for detection of Uranium to better than 1 PPB.

### केट में "हिन्दी मास"

"हिन्दी दिवस" कार्यक्रमों के क्रम में राभाकास, केट द्वारा इन्दौर नगर के छात्रों के लिए एक अन्तर-विद्यालयीन वाद-विवाद प्रतियोगिता का आयोजन किया गया। वाद-विवाद का विषय था: "विज्ञान और प्रौद्योगिकी विषयक अध्ययन / अनुसंधान हिन्दी में संभव है?" आयोजन का उद्देश्य था कि विज्ञान के छात्र विज्ञान के उन्नत अध्ययन और अनुसंधान को हिन्दी में किए जाने के बारे में क्या सोचते हैं। प्रतियोगिता में नगर के 16 विद्यालयों के छात्रों ने विषय के पक्ष में अपने विचार प्रस्तुत किए। चल-वैजयंती "इम्पीरियल एकेडेमी", इन्दौर ने जीती। विषय के पक्ष में मा.क्षितिज खरे, (चौइथराम स्कूल) ने प्रथम स्थान प्राप्त किया। निदेशक, केट द्वारा यह पुरस्कार प्रदान किए गए वाद-विवाद प्रतियोगिता का शुभारंभ डॉ. एच.आर.खान, प्राचार्य, प.ऊ.के.वि., इन्दौर ने किया।



"हिन्दी दिवस" - 1996 के क्रम में आयोजित "राजभाषा सम्मान समारोह"। चित्र में अध्यक्ष (राभाकास, केट) डॉ. ललित मोहन कुकरेजा, निदेशक, केट डॉ.दि.दे.भवालकर, अध्यक्ष, नगर राजभाषा कार्यान्वयन समिति, (आयुक्त, केन्द्रीय उत्पाद शुल्क एवं सीमा शुल्क) श्री बी.के गुप्ता एवं राभाकास सचिव, श्री सुनील सरवाही।

**CAT NEWSLETTER:** is a publication of

Centre for Advanced Technology,  
P.O. CAT,  
Indore (MP) 452 013,  
India.

#### EDITORIAL BOARD

P K Kush, J S Adhikari, Deepa Angal Kalinin, Rama Chari & M K Harbola.

For private circulation only.