

CONFERENCES / WORKSHOPS / SEMINARS

Indo - Soviet Meeting on Microtrons

An Indo-Soviet meeting on Microtrons (sponsored by Academy of Sciences of the USSR, Department of Science and Technology and Department of Atomic Energy, India) was held at CAT during January 22-24, 1992. Experts from foreign laboratories and from several universities, research institutes and industries of India participated in the meeting. The meeting, first of its kind, provided an excellent opportunity for sharing information and experience amongst experts from various countries involved in design, construction and utilization of microtrons. Apart from detailed discussion on the design of microtrons (including the one at CAT) the various applications of microtrons like radiotherapy of cancer, radiography of metallic and non-metallic compounds of large thickness, injection of electron beam into synchrotron and activation analysis were discussed by experts in the field.

Several talks were given by CAT scientists describing in detail the 20 MeV microtron which is expected to be commissioned soon and other related developmental activities at CAT.

Shri S S Ramamurthi, Project Manager, Accelerator Programme, CAT was the convener and Shri H C Soni, CAT was the secretary of the seminar.

International Conference on Synchrotron Radiation Sources

An International Conference on Synchrotron Radiation Sources was organised at CAT during February 3 - 6, 1992. The conference was sponsored by United Nations Educational and Cultural Organization (UNESCO), International Centre for Theoretical Physics (ICTP) and



Shri S S Ramamurthi, Project Manager (Accelerator), CAT, welcoming the participants at the Indo-Soviet meeting on Microtrons. Seated on the dias are from left to right: Prof S Rosander, RIT, Sweden, Dr D D Bhawalkar, Director, CAT, Shri P B Tole, Director SAMEER and Shri H C Soni, CAT.

Department of Atomic Energy. It was attended by 193 scientists of which 37 scientists were from foreign countries like USA, China, Japan, France, Germany.

Prof Herman Winick, Deputy Director, Stanford Synchrotron Radiation Laboratory, USA delivered the key note address providing an overview of synchrotron radiation sources around the world. The topics such as physics and technology of synchrotron radiation sources and their beamlines, status of synchrotron radiation facilities and applications of synchrotron radiation were covered in 27 invited and 53 contributed papers. The later included more than 20 papers describing different subsystems of the synchrotron radiation sources, Indus-I and Indus-II, being developed at CAT. The conference was inaugurated by Dr P K Iyengar, Chairman, Atomic Energy Commission and Secretary, Department of Atomic Energy and Dr D D Bhawalkar, Director, CAT presided over the inaugural function. Shri S S Ramamurthi, Project Manager (Accelerator), CAT was the convener and Shri Gurnam Singh, CAT was the Secretary of this conference.

Seminar on 'Lasers in Industry'

A two day seminar on 'Lasers in Industry' was organised by Indian Laser Association (ILA) at CAT, on February 22 - 23, 1992.

The seminar was designed to provide senior executives and technocrats from different industries a broad perspective of industrial applications of lasers which should help them to decide about using this modern technology. About 50 participants from different industries and 25 from academic institutes attended the seminar. Starting from the principles of lasers the various industrial applications of



Prof Herman Winick, Deputy Director, SSRL, USA, delivering the key note address at the International Conference on Synchrotron Radiation Sources held at CAT during Feb. 3-6, 1992.

lasers viz. laser material processing, optical communication, laser applications in chemical processes and electronic industry, laser NDT and laser metrology were covered in detail by nine experts. A much appreciated feature of the seminar was the presentation by senior engineers from several industries (HMT, Bangalore; Pacetronix, Indore; Philips India, Pune; Fine Laser Cut, Pune; Gajra Gears, Indore and TTC Laser Machine (P

Ltd., Delhi) who are already using lasers in their manufacturing units. They described their experience of using lasers under Indian industrial conditions. Dr D D Bhawalkar, President, ILA inaugurated the seminar and in his inaugural address described the various activities of Indian Laser Association and the laser programme at CAT. Dr A K Nath, CAT was the convener of the Seminar.

PUBLICATIONS

Book Contributions

1. "Transformation twinning and related phenomena", V K Wadhawan and C Boulesteix, Chapter 2 in the book "Diffusionless Phase Transitions and Related Structures in Oxides", ed. C Boulesteix, Trans Tech Publications, Zurich (1992).

In Journals

1. "Superconducting thick films from combined heat treatment of mixtures of Y-Ba-Cu-O and Bi-Pb-Sr-Ca-Cu-O", J Marfaing, Y Wang, V K Wadhawan, C Boulesteix, J P Sorbier and P Odier, *J Crystal Growth*, 118, 27 (1992).
2. "History effect in harmonic generation in sintered pellets of YBaCuO", S Kumar, S B Roy, P Chaddah, R Prasad and N C Sani, *Physica C*, 191, 450 (1992).
3. "Design and operation characteristics of a high power transverse flow pulser sustained CW CO₂ laser", A K Nath, L Abhinandan, P Chowdhary and M Kumar, *Pramana - J Phys.*, 38, 379 (1992).
4. "Comment on Valence - Band Photoemission from a Quantum - Dot System", S V Nair, L M Ramaniah and K C Rustagi, *Phys. Rev. Lett.*, 68, 898 (1992).
5. "Electron states in a Quantum Dot, in an effective bond orbital model", S V Nair, L M Ramaniah and K C Rustagi, *Phys. Rev. B*, 45, 5969 (1992).

Internal Reports

1. "Design considerations of Metrology beam line on Indus-I", R V Nandedkar, K J S Sawhney, G S Lodha, CAT/I/92-1.
2. "Image processing in beam diagnostics", A K Gupta, A Rajan, A Banerji, M Ingale, CAT/I/92-2.

Contributed Papers in Conferences/Symposia

1. "Design features of Indus-II", G Singh, G K Sahoo, A D Ghodke and S S Ramamurthi, *Int. Conf. on Synchrotron Radiation Sources*, CAT, Indore, Feb. 3-6, 1992.

2. "Compound multipole magnets for Indus-I", S P Mhaskar, R K Mishra and V Tomar, *ibid.*
3. "Synchrotron magnet fabrication technique", S S Prabhu, A M Puntambekar, K A Hussain, K Sreeramulu and S S Ramamurthi, *ibid.*
4. "Power supply for 700 MeV booster ring dipole and quadrupole magnets", A P Thipse, S Kotaiah and S S Ramamurthi, *ibid.*
5. "Radio frequency system for the booster synchrotron and Indus-I", S A Pandey, M Lad, P R Hannurkar and S S Ramamurthi, *ibid.*
6. "Microtron -Injector for booster synchrotron of SR facility", H C Soni and S S Ramamurthi, *ibid.*
7. "Beam diagnostic system of Indus-I accelerator system", Anil Banerji, *ibid.*
8. "Accelerator technology development", S S Ramamurthi, M G Karmarkar, S Kotaiah, S C Joshi, L N Pathak, P Srivastav, R S Shinde and S N Joshi, *ibid.*
9. "Control system for Indus-I design and status", B J Vaidya, J S Adhikari, D N Shukla, P Fatnani and K Bärpande, *ibid.*
10. "Dynamic aperture of Indus-I", G K Sahoo, G Singh and S S Ramamurthi, *ibid.*
11. "Injection into Indus-I", B Singh, G Singh and S S Ramamurthi, *ibid.*
12. "Ion trapping studies for Indus-I", D Angal, G Singh and S S Ramamurthi, *ibid.*
13. "The closed orbit distortion and its correction in Indus-I", A D Ghodke, G Singh and S S Ramamurthi, *ibid.*
14. "Design and field analysis of synchrotron dipole magnets", R K Mishra, S P Mhaskar, R S Shinde, S Kotaiah, Y R C Murthy and V Tomar, *ibid.*
15. "Design and fabrication of RF cavities for booster synchrotron and storage rings of SRS facility", H C Soni, J Dwivedi, A K Jain, H K Pathan, A S Rajarao and S S Ramamurthi, *ibid.*
16. "Beam viewer system for 450 MeV electron accelerator", R M Pandey and D K Joshi, *ibid.*