

Approved

The design of buildings for the SRS INDUS-I and an Accelerator Testing Laboratory has been approved by the Project Safety Review Committee of the Atomic Energy Regulatory Board, Bombay.

Equipments Commissioned

Cryogenics group has commissioned a liquid helium plant (capacity 10 l/h) and a liquid nitrogen plant (capacity 25 l/h). The capacity of the liquid He plant, procured from M/s Koch process systems, USA, can be augmented in future to a maximum of about 37 l/h using three compressors and liquid nitrogen precooling. The liquid nitrogen plant (procured from M/s Philips, Holland) works on the Pressure Swing Absorption (PSA) principle and has microprocessor based controls. A chilled water unit (10 cubic meter / hour at 10°C) has also been installed for supplying chilled water to the liquid helium and liquid nitrogen plants.

A 3-D coordinates determination system ECDS-2 (procured from Kern & Co. Switzerland) has been commissioned. It uses two precision, electronic digital theodolites and an online PC-AT loaded with ECDS-2 software package. The object, which is simultaneously sighted through the telescope of each theodolite should have well defined target mark, whose coordinates are immediately calculated and displayed on the monitor. Reference origin and direction of axes are defined initially in the orientation procedure. Under optimum sighting geometry and with well defined targets, this system ensures accuracy of measured coordinates within 0.05 mm over 10 meters. This instrument can be used for inspection of large equipments, jigs and objects like dish antenna, pressure vessels etc. and placement and alignment of magnets in particle accelerators. An invar wire distometer capable of measuring displacements with an accuracy of 0.01 mm has also been received and commissioned.

Exhibitions

CAT participated in the India International Trade Fair (IITF) held at Pragati Maidan, New Delhi from Nov. 14 to 29, 1989. Working units of Copper Vapour Laser and closed cycle helium cryorefrigerator (20K) alongwith models of Synchrotron Radiation Source and Laser Fusion Laboratory were exhibited. Further, slides and photographs of various scientific programmes at CAT were also shown.

Hindi Day

Official Language Implementation Committee (OLIC) CAT organised a function on Sept. 14, 1989 at CAT to celebrate the Hindi day. An extempore Hindi elocution competition and a Hindi poetry recitation competition was arranged on the occasion. About fifteen CAT employees participated in these competitions. A Hindi *Kavi-Sammelan* was also arranged after the main programme. Eleven noted Hindi poets participated. Dr. Badriprasad Birmal from Govt. Girls Post graduate College, Indore was the chief guest and Shri Ramvilas Sharma, noted Hindi poet, was a special guest. Shri S S Ramamurthi, Project Manager (Accelerator), CAT presided over the function.

Technical Seminar in Hindi

A one day seminar in Hindi on "Activities in the Field of Lasers and Accelerators at CAT" was organized by Official Language Implementation Committee, CAT on March 18, 1989 at Jaal Auditorium, Indore. The seminar was open to public and was attended by over two hundred people from different walks of life. The objective of the seminar was to create a general awareness about the scientific activities at CAT. A documentary film entitled "Laser - the Light of the 21st Century" was screened at the end of the seminar. An exhibition of scientific and technical books in Hindi was also organised. It was inaugurated by Dr. Prabhakar Machawe. The seminar was inaugurated by Shri R K Garg, Chairman and Managing Director, Indian Rare Earths Ltd. Dr. S S Kapoor, Associate Director, Physics Group, Bhabha Atomic Research Centre delivered a talk on "The history, physics aspects and applications of accelerators". Shri S N Vyas of CAT was the convener of the seminar.

National Integration Week

National integration (Quami- Ekta) week was celebrated at CAT from Nov. 17 to 24, 1989. National integration oath was taken by all the employees of CAT on Nov. 17, 1989. On Nov. 20, OLIC, CAT organised a combined Hindi *Kavi Sammelan* and *Urdu Mushaira* in which ten Hindi and Urdu poets participated and recited poems of contemporary relevance. Shri P Gopalan, Chief Administrative and Accounts Officer, CAT welcomed all the poets.

On Nov. 21, 1989 a Hindi seminar was organised on the topic "Religion and Science". Dr. (Smt.) Vanmala Bhawalkar, ex-Reader Sanskrit Department, Harisingh Gaur University, Sagar; Smt. Nalini Rewariker, Principal

Girls Postgraduate College, Indore; Dr.D S Joshi, ex-Principal Holkar Science College, Indore; Shri Murarilal Tiwari, ex-Justice Industrial Court (M.P.) and Dr. Prabhakar Machawe, noted literary personality expressed their views on the subject. Dr.D D Bhawalkar, Director, CAT presided over the function. On the last day (Nov. 24, 1989), women's day was celebrated by CAT Ladies Club by arranging a fun-fair.

CAT Staff Club

CAT staff club arranged sports competitions for tennis, table tennis, volley ball, tennis ball cricket, kabaddi and carrom. About two hundred employees participated in these sports events. The annual function was held on Dec. 30 and 31, 1989. A programme of 'Swaranjali' Orchestra was also arranged on this occasion. Shri A W Kanamadikar, Ex-secretary Board of Cricket Control, India was the chief guest. Shri S S Ramamurthi, Project Manager (Accelerator), CAT presided and Shri D S Shukla coordinated the function.



One day seminar in Hindi on "Activities in the field of lasers and Accelerators at CAT". On the dias are (from L to R) Shri V K Kulkarni, Chaiman, OLIC, Dr D D Bhawalkar, Director, CAT, Shri R K Garg, Chairman & Managing Director, Indian Rare Earths Ltd. and Dr.Prabhakar Machawe.

Interaction with Academic Institutions

Several scientists from CAT were invited to deliver talks at various academic institutes and universities. A total of sixty lectures were given by CAT scientists on Lasers and Electro-optics to M.Tech students of IAT, Pune. Some specialized courses were given by CAT scientists at Devi Ahilya Vishwa Vidhyalaya, Indore. About twelve students from different universities did their project work for M.Sc. degree under the guidance of CAT scientists.

Honours / Awards

Dr. D D Bhawalkar, Director, CAT has been elected a fellow of the Indian National Science Academy.

Dr. P K Gupta, Laser Programme, CAT is one of the two recipients of Dr. N S Satya Murthy Memorial Award for 1988. The award was given by the Indian Physics Association in recognition to his contributions on the research and development of lasers in the mid-infrared region.



Dr. D D Bhawalkar, Director, CAT explaining a laser system to Dr. Raja Ramanna.

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