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## OTHER ACTIVITIES / NEWS

### School on Superconductivity and Cryogenics

A two week long School on Superconductivity and Cryogenics in Accelerators and Tokamaks was inaugurated on Jan 27, 1998 at CAT by Dr. Lyndon Evans, Director, European Centre for Nuclear Research (CERN). In his inaugural lecture he informed that efforts are being made to develop six polar magnet and added that the prototype magnet developed at CAT has been tested and demand has been placed for its supply. In the second session, Martin Wilson of Oxford Instruments, UK, delivered a special lecture on accelerators. Presiding over the function, CAT Director, Dr D D Bhawalkar informed about various research

works being carried out at CAT on cryogenics. He informed that a single stage and a two stage Closed Cycle Cryo-cooler have been developed at CAT. The single stage cryocooler reaches temperatures up to 32 Kelvin and in the two stage cryocooler the temperature has been brought down to 12 Kelvin. Further steps are being taken to bring down the temperature so as to liquefy Helium. Eleven experts from various countries like UK, Russia, Japan, USA, Germany and Netherlands and Switzerland (CERN- Geneva), in addition to 5 experts from various Indian labs delivered lectures covering most aspects of superconductivity and cryogenics related to particle accelerators and fusion devices (Tokamaks). Apart from these lectures, 15 special seminars on Indian projects were held during the school. More than

eighty scientists and engineers from all over the country participated in this school.

### Orientation course on "High Power CO<sub>2</sub> Lasers and Laser Material Processing"

Realising the growing need to disseminate knowledge on recent developments in the industrial lasers and their material processing applications, an orientation course on "High Power CO<sub>2</sub> Lasers and Laser Material Processing" was organised by Indian Laser Association at CAT during Jun 1-5, 1998. The course was designed for executives, supervisors and technologists who were either already involved in the lasers material processing or considering to adopt the new technology in their production line. About 40 participants from different academic institutes, R&D centres, defence organisation and public / private industries attended the course. During the course about 20 lectures on basics of lasers, different industrial lasers, electrical power supplies for lasers, laser material interaction, laser beam shaping and delivery systems, laser cutting, welding, surface hardening, cladding and alloying, mechanical and metallurgical characterisation of laser processed materials and safety aspects of laser usage were delivered by scientists and engineers of CAT. Various laser material processing applications were also demonstrated on high power CO<sub>2</sub> lasers. On the request from Ordnance Factory Staff College, Nagpur, the same course was repeated for their probationary officers during Sept.14-19, 1998 in CAT. Both the courses



Demonstration of artificial clouds formed with liquid nitrogen on Science Day. Every year the last Saturday of February, is observed as Science day at CAT.

were co-ordinated by Dr A K Nath.

### Snippets

- Dr Dilip Bhawalkar, Director, CAT has been conferred the 'National Goyal Science and Technology Award' for year 1998 for his contribution in the field of Laser Technology. He received the award at a special ceremony at Kurukshetra.
- Dr Bhawalkar has been recently elected a "Fellow of the Optical Society of America".
- Shri A S Raja Rao Head, Accelerator Technology Division has been elected as President of Indian Vacuum Society for the period 1998-2001.
- Shri A S Raja Rao, Head, Accelerator Technology Division, has been nominated as Principal Member of the Chemical Engineering Plants and related equipment Sectional Committee HMD-17 by the Bureau of Indian Standards, New Delhi.
- Mahesh Chandran was awarded Ph.D. by DAVV, Indore. His thesis was titled "Study of Vortex Dynamics in Superconductors"
- Shri Lala Abhinandan submitted his Ph.D. thesis titled "Laser Curing of Powder Coatings" to I.I.T., Mumbai

"CAT Newsletter is now available on Internet (World Wide Web) at <http://www.cat.ernet.in/newslett>

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