

Workshop on "Plasma Diagnostics"

The first academic activity at CAT

Major programmes in the field of high temperature, high density plasmas, laser induced inertially confined plasma, magnetically confined plasma etc. have been taken up at various laboratories in India including BARC, Bombay; Institute of Plasma Research, Ahmedabad and Saha Institute of Nuclear Physics, Calcutta. With a view to bring together various scientists working in Indian laboratories in the field of plasma diagnostics (experimental and theoretical), a Workshop on "Plasma Diagnostics", was organised by BARC in collaboration with Plasma Physics Programme, Ahmedabad. The Workshop was sponsored by the Electronics & Instrumentation Committee of the Board of Research in Nuclear Sciences and was held at CAT, Indore from January 20-25, 1986. The Workshop was inaugurated by Dr. P. K. Iyengar, Director, BARC and was attended by nearly 90 delegates from various research laboratories and universities. Even though the surrounding area at CAT was not yet fully developed and facilities were not up to the mark, the Workshop was warmly enjoyed by one and all. Twenty three research papers were presented. It should be noted that the very idea of organising this Workshop at CAT was initiated by Dr. D. D. Bhawalkar and Dr. P. K. Kaw. Shri H. C. Pant and Shri P. I. John were the convenors, whereas Shri S. Sharma and Shri S. K. Iyengar were the Organising Secretaries. Shri S. S. Purohit, Liaison Officer, CAT, Indore along with his team extended all possible co-operation and support to make the Workshop a successful event.

—S. Sharma

Computer Facility

A sophisticated and modern computing facility is a necessity for a Research Centre like CAT. A Computer Centre has been established at CAT to cater to all computing needs of CAT.

Presently the Computer Centre has the following Hardware and Software facilities:

Hardware:

- Two 68020 based super mini UNIX machines, each with 4MB RAM, 500 MB hard disk, mag. tape, cartridge tape & 600 LMP printer. Each machine has 10 intelligent PC terminals installed all over CAT.
- Two drafting workstations based on PC/AT computer. Each has 2.5 MB RAM, 40 MB hard disk, EGA card, high resolution colour monitor, digitizer, plotter and mouse.
- Ten PC, XT's with 640 KB RAM, 20 MB hard disk and color Monitors.

Software:

- Universally accepted industry standard UNIX System V.3 O.S. with all standard utilities, f77, SSP, NAG Library, etc. Software

for other scientific & Commercial applications is also available..

- PC, XT's & AT's are having MS DOS 3.2 with Software for Scientific computation, drafting, data base management & Word Processing etc..

The Computer Centre has been established keeping in mind the requirements and development in the field of Computer Science. Presently Computers are effectively used for following applications:

- Scientific Computations required by scientists.
- Interfacing instruments with personal computers.
- Monitoring of Purchase & Procurement.
- Computer aided drafting.
- Administration, Accounts, Text/Word Processing.

Since Computer field is expanding at a rapid pace, training becomes a continuing process. Following training programmes were conducted by Computer Centre:

- A two week hands on extensive course on drafting was package AUTOCAD.
- A two day exposure Programme on UNIX O.S.



Dr. P.K. Iyengar, Director, BARC Inaugurating the Plasma Diagnostics Workshop at CAT. Seated on the dais (from L to R) are—Shri S.K. Iyengar, Shri S. Sharma, Dr. P.K. Kaw, Dr. D.D. Bhawalkar & Shri H.C. Pant.

—A two week programme was conducted in June '88 to give an indepth knowledge of UNIX O.S. to CAT users.

—A. K. Gupta

Workshop

The scientific programmes at CAT require support of a modern workshop with facilities for precision machining. The CAT Workshop, which has two wings, is being established with this in mind. The two machine shops have HMT centre lathes, milling machines, surface grinders, drilling machines, bandsaw, hydraulic press, shearing machine, plasma cutting machine and various other facilities such as TIG welding facility, arc welding facility, gas cutting facility, silver brazing facility etc. In addition, the workshop has recently installed a Jig Boring machine manufactured by M/s SIP, Societe General Instruments DE Physique, Switzerland who are the world leaders in manufacturing this type of machine. It is an acquisition of current state of the art technology in mechanics and electronics. The machine is capable of providing positional accuracies of better than 0.004 mm in the entire travel of x and y axes

(900mm × 600 mm). On this machine, various operations can be performed, eg. surface and slot milling, drilling, boring, grilling, spot facing, tapping etc. Two rotary tables giving an angle setting accuracy within ± 1 sec have also been procured. Some special purpose machines are expected to be added for fabrication of optical components and precision parts for High Power Lasers & Accelerator Programmes.

—A. S. Rajarao

Important Meetings, Seminars and Lectures at CAT

1. With a view to assess the basic design of INDUS-1, an SRS Design Verification Committee was constituted by Director, CAT which consisted of Dr. R. Chidambaram, Director Physics Group BARC; Dr. S.S. Kapoor, Associate Director-Physics Group, BARC; Dr. S.R. Gowarikar, Director-CSIO, Chandigarh; Prof. A.P. Patro, Director-NRL, New Delhi; Dr. D.C. Sahni, SO/SG, BARC and Dr. R.K. Bhandari, SO/SF, VECC, Calcutta. The Committee met at CAT on 2nd and 3rd March, 1988. Scientists of Accelerator

Group presented the salient features of INDUS-1 to the Committee.

2. A seminar to review the SRS Magnet fabrication and field measurement system was held at CAT on 10th May, 1988. Experts invited in this review committee were the following: S/Shri G.S. Krishnamurthi, So/SG, CWS, BARC; S.B. Bhoje, SO/SG, IGCAR, Kalpakkam; Anil Khakodkar, Head, RED, BARC; B.B. Bhattacharya, SO/SF, VECC, Calcutta; S.S. Ramamurthi, SO/SG, CAT and A.S. Raja Rao, SO/SG, CAT.

3. Prof R. Ambertzumian, Head Laboratory for Lasers in Medicine, P.N. Lebedev Institute, Moscow gave two lectures on "Lasers in Cardiosurgery" and "Primary Photochemistry in Laser Therapy" at CAT on 29th November, 1987 and 1st December, 1987.

4. Dr. V. B. Asgekar, from Poona University gave a talk on "Free electron lasers" at CAT on 29th April, 1988.

Jig Boring Machine. ▷

CAT Workshop—A view. ▽

