

DIRECTOR'S DESK...

I wish to thank the Editorial Board for doing such an efficient job on the compilation of the July 2005 issue of CAT Newsletter, covering several activities completed during the first half of 2005. In addition, the issue carries two theme articles, both pertaining to Indus-2. The first one entitled "Indus-2 magnet power supplies" by S. Kotaiah and the second one on "RF system for Indus-2" by P.R. Hannurkar cover two important subsystems of Indus-2. The choice of these two topics signifies noteworthy indigenous developments in these areas carried out in the Centre and I would like to compliment the authors and their teams for these contributions. I acknowledge the hard work of my colleagues who have put together the whole Indus-2 storage ring, along with the transfer line (TL-3) in just about a year or so. I would also like to congratulate them for successfully testing out the functioning of TL-3, through which the electron beam is transported from the booster synchrotron to Indus-2. Shri Gurnam Singh reports the first result from the operation of TL-3 and it marks a major step toward starting the trial injection of beam into Indus-2. I now feel confident that we can soon begin experiments to store the beam in the storage ring.

The other challenging development completed during this period was the use of fibre-coupled Nd: YAG high power laser system for cutting and welding of bellow end ring and shrink fit ring attached to coolant tubes in our nuclear power reactors. Later this year, this technology, that has been developed, is going to be deployed in the en-masse coolant channel replacement in the Narora reactors. The newsletter carries the technical details of this development, for which I would like to compliment Shri T.P.S. Nathan and his team.

As we have started the tradition of holding the "Foundation Day Function" of the Centre – the first one having been organized on February 19, 2005 - some items of this event are also included in this issue, reflecting the enormous enthusiasm shown by entire CAT staff for holding this function. I am sure this tradition will continue to be a source of inspiration for all in future.

Finally, each item reported in the laser and accelerator sections signifies major science and technology initiatives undertaken by my colleagues in the Centre. I hope the readers would find these items interesting, and would interact with the contributors for more details.

V.C. Sahni
August 2005

EDITORIAL DESK...

It is a pleasure to bring out the present issue of CAT Newsletter, covering the activities in first half of 2005. This period has been very vibrant. Indus-2 synchrotron light source activity has gained significant momentum and commissioning trials of storage ring will start shortly. All the subsystems have been put in place. In the last issue we carried a theme article on the vacuum system for Indus-2. To carry the string forward, in this issue we have theme articles on magnet power supplies and RF systems for Indus-2. These articles give a glimpse of the high-end technological capabilities of the Centre. With the commissioning of transfer line (TL-3), electron beam is ready for injection in the storage ring. The scientific user community is eagerly looking forward to the commissioning of this light source. This would make CAT a major research hub for scientific and technological activities in the country. The activities connected with the Indus-2 front ends and beamlines have started taking shape. The prototype front end has been assembled. The various beamline components have already started moving to the experimental hall. The double crystal monochromator for high-resolution x-ray diffraction beamline has been installed.

There has been significant achievements in the laser and accelerator programmes, and is reflected in the large number of news items in this issue. In fact, the numbers of news items received were significantly large, but due to space constraints we are able to include only 50% of the items. We sincerely apologize to the contributors and hope that we will be able to include them in forthcoming issues. The scientific activities growing at a fast pace is amply reflected in the large publication list during this period.

On the CAT foundation day, Dr. V.C. Sahni, Director CAT gave an overview of the scientific and technological achievements of the Centre. The contents of the talk are available on CAT web page (www.cat.ernet.in). This gives a bird eye view of the various activities in CAT.

The Editorial board is thankful to Director CAT for his support, timely advice and keen interest in bringing out this issue. Contributors dictate the success of the newsletter and we look forward to their continuous support.

Editorial Board
August 2005