



N.5: Theme Meeting on Atomic and Molecular Science using Indus Synchrotron Facility

A theme meeting on Atomic and Molecular Science (TAMS-2012) using Indus synchrotron facility was held at RRCAT during 4th-5th March, 2012. Dr. P D Gupta, Director RRCAT, presided over the inaugural function held on 4th March 2012. Dr. S Kailas, Director Physics Group, BARC discussed the importance of the theme meetings in improving the research networking for conducting advanced research programs and effective utilization of large scale experimental facilities like Indus. Dr. S K Deb, Head ISUD, gave an overview of the Indus synchrotron sources and Dr. B N Jagatap, Head Atomic and Molecular Physics Division, BARC, discussed the current international research scenario and ongoing activities using Indus facilities in the field of Atomic and Molecular Science. Dr. B N Raja Sekhar, Convener, TAMS-2012 welcomed the delegates, invited speakers and students and invitees attending the function. Dr. Aparna Shastri, Secretary, TAMS-2012, conducted the proceedings of the meeting and proposed vote of thanks.

The meeting was aimed at taking stock of the current developments and future trends in the field and consolidating the existing experimental programs to be taken up on the VUV and soft X-ray beam-lines at Indus-1 and Indus-2 and enhanced utilization of the current facilities and development of new workstations and research programs in collaboration with universities and other academic institutions. The two-day theme meeting focused on research in Photophysics, Photochemistry and Photobiology using Indus synchrotron radiation sources and to bring together researchers from physics, chemistry and biology disciplines for Indus utilization, discuss the current national and international scenario, take stock of the expertise base available in the country, identify and evolve thrust areas, collaborating teams, methods of collaboration and participation of researchers from universities/research institutes in synchrotron radiation based research.

In the inaugural session, the subsequent sessions of the theme meet contained presentations by scientists using Indus for their research programs followed by proposal presentations to start new research programs. These presentations included research areas such as Matrix Isolation, Molecular Ices, Nanostructures, Photonic devices, Molecular Spectroscopy, Photoionisation, Photo-dissociation, gas phase photoemission, clusters etc. delivered by visiting academicians and scientists from BARC, RRCAT, IGCAR, TIFR, PRL, IIT-M Chennai, IISER-Pune, IISER-Mohali, NIISER-Bhubaneswar, Allahabad University, Aligarh Muslim University, Andhra University-Visakhapatnam. In total 60 delegates from outside DAE institutions and 30 people from BARC, RRCAT and IGCAR including students from local universities attended the meeting.

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N.6: Interaction Meeting on Micro Fabrication using Indus-2: Possible Structures and Devices

An interaction meeting on "Micro fabrication using Synchrotron Radiation Source Indus-2: possible structures and devices" was organized during 11th-12th March, 2012. Dr. V K Suri, Head Precision Engineering Division, BARC and Dr. S K Deb, Head Indus Synchrotrons Utilization Division were the conveners of the meeting. Around 50 participants from IITs, National research laboratories and Universities attended this meeting. Interaction meeting was inaugurated by Dr. P D Gupta, Director RRCAT. In his inaugural address, he informed participants that a series of focused theme meetings were being organized to promote the utilization of Indus Synchrotron Facility by increasing the user base in the country. Dr. Gupta expressed his happiness to see the gathering of researchers from various disciplines attending this meeting and assured full support to all participants for the utilization of Indus Synchrotron facility. During the meeting, Dr. V K Suri briefed how X-ray lithography can be used for the fabrication of high aspect ratio micro structures. These structures will be scaffolding for micro electro mechanical system (MEMS) development. He described the nano-finishing work carried out by BARC in collaboration with IIT Kanpur. He further informed that a machine for nano-finishing is being developed in the country. Dr. S K Deb gave an overview of the various beam-lines on Indus-2. Prof. Yuichi Utsumi from Laboratory for Advanced Science and Technology, University of Hyogo, Japan delivered a series of talks on X-ray lithography techniques and discussed various MEMS structure fabricated by his group. He explicitly pointed out that facility at BL-07 is quiet useful due to 2.5 GeV operation of Indus-2. Prof K. Rajanna, IISc Bangalore delivered a lecture on Transducers and Sensors. Prof. V K Jain, IIT Kanpur highlighted the work carried out by his group on micro-finishing using various techniques. Dr. G S Lodha, RRCAT Indore delivered the lecture on X-ray lithography and updated about the activities



Group photograph of participants of interaction meeting at Indus-2