

Indian beam-line at Photon Factory – First Phase

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The Indian beamline at BL-18B beam-port of “Photon Factory (PF)” synchrotron radiation facility in Japan has been set up successfully to cater the need of Indian scientists involved in advanced materials



research. The Indian beamline as a result is developed to carry out planned experiments of various types in the hutch. Presently, the available facilities are powder diffractions (a) in ambient condition, (b) in variable low temperatures down to 10K and (c) at high temperatures up to 1200 K; (d) Diffraction from single crystals and epitaxially grown multilayers and X-ray reflectivity, grazing incidence diffraction and diffuse scattering

from (e) solid surfaces and interfaces, (f) liquid-air and liquid-liquid interfaces. Moreover (g) small angle x-ray scattering in grazing incidence and transmission geometry can also be done here. Researchers from about 36 institutes and universities from various parts of India (refer the Figure) have performed experiments and about 50 papers have been published using this facility.

The second phase of the project has been started from April 2016 with Prof. M. K. Sanyal as Principal Investigator and Prof. Chandrabhas Narayana (JNCASR) and M. K. Mukhopadhyay as Co-Principal Investigators. Hutch will be augmented to carry out phase transition studies with a Diamond-anvil cell and with a Helium cryostat.