Foreword

The use of slow neutrons to perform microscopic structural and dynamical studies on condensed matter samples has seen a phenomenal growth worldwide over the last four decades. After the pioneering efforts in the 1950s and consolidation phase in the 1960s, many centres sprang up in different regions of the globe during late 1960s and 1970s. From 1970 onwards, with the commissioning of the reactor at the Institut Laue Langevin at Grenoble, France, several high-flux neutron sources, equipped with dedicated user facilities came up to facilitate neutron beam research (NBR). In India, NBR program started in the late 1950s has been centered around the Apsara, CIRUS and Dhruva reactors at Bhabha Atomic Research Centre (BARC), Trombay, Mumbai and Solid State Physics Division (SSPD) [that grew out of the erstwhile Nuclear Physics Division (NPD)] scientists have shouldered the responsibility to design, build and manage all the experimental neutron scattering facilities. Over the years, a diverse and vibrant program in condensed matter research has been pursued at BARC, predominantly using the medium flux 100 MW Dhruva reactor and which has been aided by both national and international collaborations. For over a decade, scientists from many national institutes and universities in India have been participating in collaborative neutron scattering experiments at BARC through a scheme under which the proposals are submitted to the Inter-University Consortium for Department of Atomic Energy Facilities (IUC-DAEF). BARC scientists have also carried out experiments, through formal/informal international contacts, at advanced facilities abroad. A major scientific collaboration between BARC and Rutherford Appleton Laboratory, UK, which formally begun in 1984 continued till 1998 and gave BARC scientists access to the advanced pulsed neutron facility ISIS. This also assisted them in their building contacts with a number of European scientists engaged in neutron scattering work. Interaction and exchange between the Indian neutron scattering scientists at BARC, and their counterparts in Bangladesh, Indonesia, Philippines and South Korea through the International Atomic Energy Agency helped in the spread of this activity in the 1970s in Asia.

To highlight the achievements to date of the various groups at BARC engaged in neutron scattering activities – particularly in the 'Golden Jubilee' year, which DAE is celebrating from August 2003 to August 2004 – it seemed most appropriate to take stock of our efforts so far. Motivated by this objective and to strengthen our various collaborations, SSPD took up the task to organize an International Conference on Neutron Scattering, on the pattern of the earlier two meetings in 1964 and 1991. The present Conference on Neutron Scattering (CNS-04), the proceedings of which are presented in this special issue of *Pramana*, was held at Bhabha Atomic Research Centre (BARC), Mumbai, India, during 2–4 January 2004. It was financed and sponsored by the Board of Research in Nuclear Sciences (BRNS) of the Department of Atomic Energy (DAE), Government of India. The contents of this special issue would reveal to the reader that the topics of the conference, which were identified taking into account the interests at BARC and also at some of the centres abroad, reflect both the strength and diversity of Trombay activities. The hard work put in by my colleagues from SSPD to hold a successful meeting, and the efforts they have put in to bring out the proceedings entitles them to my deep gratitude, particularly

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