

Preface

Every two–three years scientists involved in developments of neutron optics gather together for the International Workshop on Neutron Optics (NOP). Neutron optics has always been considered very important for the development of new neutron instrumentation. The limited brilliance of existing or future neutron sources requires the more effective usage of emitted neutrons. Indeed, improvements of the neutron optical system or an optimization of the neutron-optical tracts of instruments can result in a significant enhancement of their performance. This is especially important at present when the neutron scattering community is strongly engaged in developments of new instrumentation around the spallation neutron sources – SNS, ESS, J-PARC and Second Target Station at ISIS.

In 2013 the workshop was organized by the Jülich Centre for Neutron Science of the Forschungszentrum Jülich GmbH and was held at the Conference Centre in Ismaning next to Munich on July 2-7, 2013 on the eve of the ICNS-2013 in Edinburgh. It carried on the series of Neutron Optics workshops held in Villigen (1999, 2007), Tokyo (2004) and Alpe d'Huez (2010). This time it is also aimed to compliment the International Conference on Neutron Scattering in Edinburgh (ICNS-2013) by providing a platform for detailed discussions on the latest developments in the field of neutron optics.

The scope of the workshop was extended to the neutron detectors (in a way similar to the NOP-2004 held in Tokyo) and was labelled as the International Workshop on Neutron Optics and Detectors, NOP&D-2013. However, in contrast to the Tokyo workshop, the focus of discussions was not the detector technologies (which are the subject of many dedicated meetings), rather than the use of detectors for the purpose of the design of modern instrumentation aiming to inform detector developers about real detectors requirements for new advanced instrumental concepts.

The three-full-days workshop gathered a record number of participants, more than 120, that well exceeded usual numbers (around 70) and even exceeded the limit capacity of the conference hall booked for the workshop! It even forced the organizers to stop the registration before the deadline and to establish a kind of waiting list. Such attendance of scientists representing Australia, Japan, India, Saudi Arabia, Russia, USA, Canada and 10 European countries, actually raised the level of this event from Workshop to Conference.

Discussions at the workshop were devoted but not limited to new concepts in neutron instrumentation, focusing optics, neutron detection in the light of requirements imposed by neutron instruments, neutron polarization and polarization analysis and simulation packages.

The current proceedings are representative of about a half of oral and poster presentations made at the workshop and provide a reader with possibility to outlook the current status and perspectives in the field of neutron optics and related detector developments.

Alexander Ioffe Editor and Chairman of NOP&D-2013

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