



NMI3 THE INTEGRATED INFRASTRUCTURE INITIATIVE FOR NEUTRON SCATTERING AND MUON SPECTROSCOPY

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You do research on earth and environmental sciences?

Neutron scattering and muon spectroscopy could be the best tool for the study of the microscopic structure and dynamics of materials.

Study of the crystal structures of minerals: the latest generation of diffractometers and spectrometers at modern neutron sources allow the accurate determination of subtle structural details in minerals as a function of temperature and pressure.

Water in minerals: Neutron scattering can be used to study the motions of individual hydrogen atoms. Deuterated samples can be used in diffraction studies for the location of hydrogen sites in crystal structures and their modifications under inner earth conditions.

Studies of the magnetic properties and structures of materials: neutron scattering is the best probe of the microscopic ordering of magnetic moments, and can be used to determine magnetic structures, collective magnetic excitations, and crystal field energy levels.

Studies of rock texture: The high penetration capability of neutrons allows understanding distortion mechanism.

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How to access to the neutron facilities to develop your experiments?

How to learn about neutron scattering techniques?

How to develop new instruments for further achievements for the study of materials?

NMI3: the Integrated Infrastructure Initiative for Neutron scattering and Muon spectroscopy improve the effective use of neutron and muon European facilities, through

- Access Activities: ensuring that European researchers have access to the best research facilities.
- Joint Research Activities: developing advanced instrumentation and techniques.
- Networking Activities: planning for the future, education, training and dissemination of the results to expand the user community.

NMI3 is an 'Integrated Infrastructure Initiative', which combines in a single project all of the different activities related to European research infrastructures for neutron scattering and muon spectroscopy.

NMI3 is a 4.5-year project funded by the European Commission within the activity 'Structuring the European Research Area – Research Infrastructures' of the EU 6th Framework programme (FP6).

NMI3 brings together 23 partner organizations from 14 European countries, including 12 research infrastructures and involving 50 research groups, together with other interested bodies such as the European Neutron Scattering Association (ENSA) and the International Society for Muon Spectroscopy (ISMS).

NMI3 is coordinated by ISIS – the pulsed neutron and muon facility located at the Rutherford Appleton Laboratory in the UK.

Information on the *European portal for neutron scattering and muon spectroscopy*

<http://www.neutron-eu.net>