The Italian Neutron Experimental Station (INES) at ISIS: Status and Development

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The INES project concerns the realization of a multipurpose experimental station, built by CNR at the ISIS pulsed neutron source (Rutherford Appleton Laboratory, UK). This instrument is mainly intended to operate as test and training facility for the Italian neutron-scattering community. The experimental station is equipped with a multipurpose time-of-flight neutron diffractometer, presently under commissioning. This is located downstream a water moderator of the neutron source, with an excellent time-resolution. In the present configuration the INES diffractometer contains a highly-efficient large detector area covering a range of about 170^{o} on the horizontal plane. Moreover it offers a large sample volume (about 0.25 m^3), allowing the study of almost any kind of object, including bulky archaeological artifacts. The possibility to separately analyze each single detector makes texture analysis also possible. The opportunity to operate experiments in particular thermodynamic conditions (i.e. high pressure, high and low temperatures) is also under investigation.

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