PAXY is a small angle neutron scattering instrument designed for experiments requiring a good resolution. It is used for isotropic or anisotropic scattering and for the study of periodic structures. The instrument is installed at the end of the cold neutron guide G 2. Incoming polychromatic neutrons are monochromatized by a mechanical velocity selector; wavelength may vary from 0.4 nm to 2 nm. The neutrons are then collimated with two Ni guide elements under vacuum. These elements can be moved in (or out) the incident neutron beam. Two circular holes of variable diameter achieve the collimation. The geometry of the incident collimation depends on the beam divergence required. The sample holder is equipped with a double goniometer (± 20°) and two independent rotating tables, one for heavy charge (~ 800 kg).

Various sample environments can be chosen such as an automatic temperature controlled sample changer, cryostat, magnet with or without vertical sample changer, shearing cell (Couette cell or Cone and Plate). The BF$_3$ multi-detector, with 128 x 128 cells of 5 x 5 mm$^2$, can be positioned at any distance between 1 and 7 m from the sample in the horizontal direction in its vacuum tube. This tube can rotate around the vertical axis of the sample to extend the q range. Smaller q values (down to 10$^{-3}$ Å$^{-1}$) may be reached using the time of flight technique instead of the mechanical selector. The instrument is operated by a PC computer through a menu-driven interface and an image of the data collected are displayed on a colour monitor.

Responsible : F. Cousin e-mail : fabrice.cousin@cea.fr