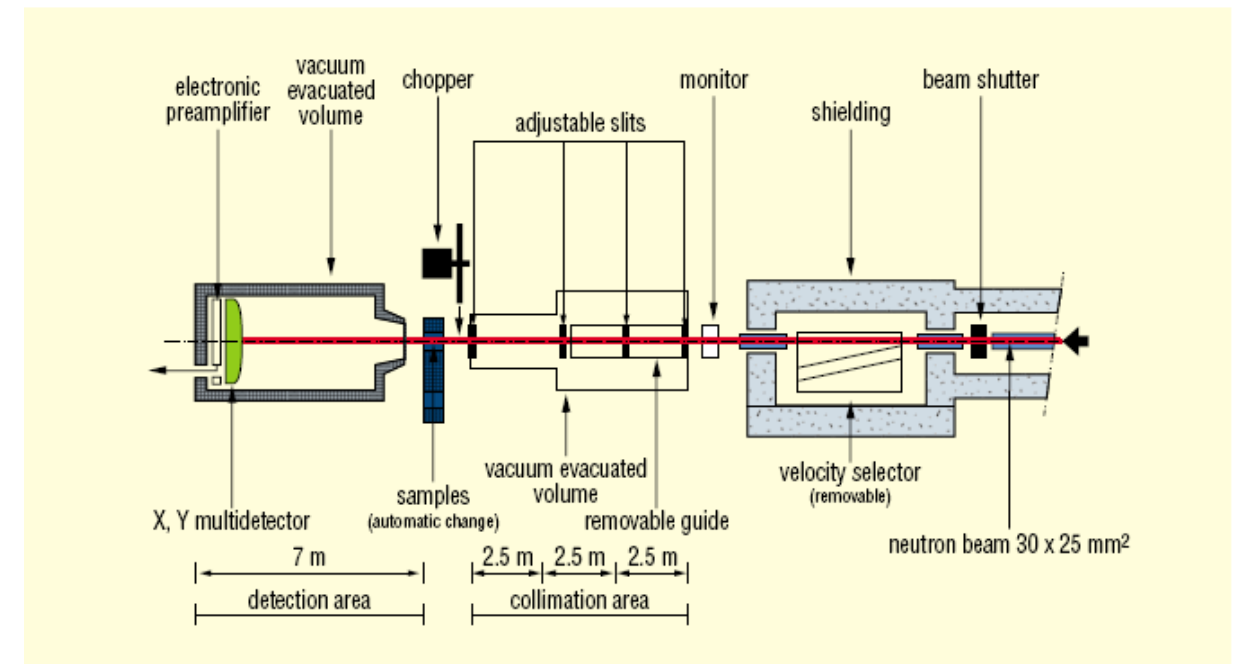


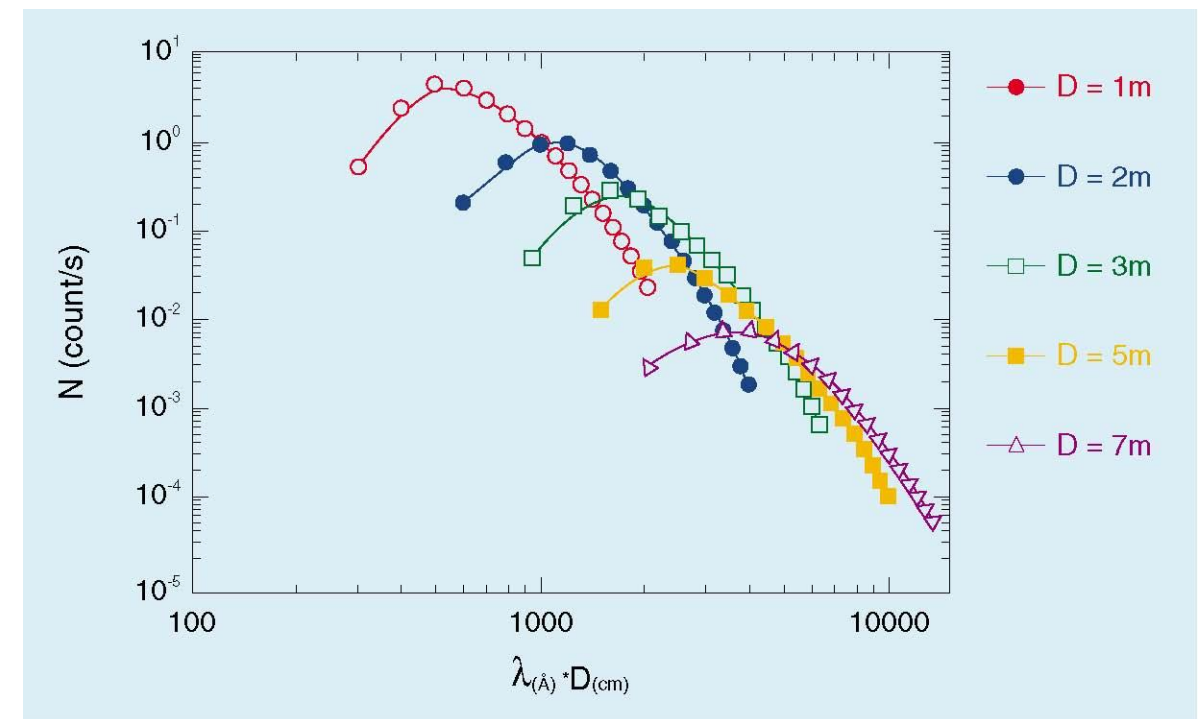
| | |
|--|---|
| Beam tube | Neutron guide G 2 (cold source), supermirror coating $2\theta_c$ (cutoff : 2.6 Å) |
| Monochromator | 1) Mechanical selector $4 \text{ \AA} < \lambda < 20 \text{ \AA} \Delta\lambda/\lambda \sim 10\%$. 2) Neutron guide $4 \text{ \AA} < \lambda < 20 \text{ \AA} \Delta\lambda/\lambda \sim 30\%$. 3) Time of flight method |
| Type of instrument | Small Angle Scattering diffractometer for high resolution (in q-space) studies. |
| Max. flux at specimen | Strongly dependent on the collimation |
| Max. Beam size at specimen | $2.5 \times 3 \text{ cm}^2$ - typical size $1 \times 1 \text{ cm}^2$. |
| Moment transfer range | $3 \times 10^{-3} \text{ \AA}^{-1} < q < 1 \text{ \AA}^{-1}$ |
| Distance Sample Detector | 1 m to 7 m continuously variable |
| Scattering angle range (2θ) | 0° to 60° (for distance sample detector $< 3.5 \text{ m}$) |
| Collimation | Fitted to the sample detector distance and computer controlled. |
| Attenuators | Choice between 14 (PMMA) sheets of different transmissions |
| Detector | BF_3 , XY multidetector, $64 \times 64 \text{ cm}^2$ 15500 cells, each $5 \times 5 \text{ mm}^2$. |
| Data collection | The data treatments are done by using available home made programs on PC and SUN |
| <u>Ancillary equipment</u> | <ul style="list-style-type: none"> ★ Automatic sample changer (8 positions) with temperature control ($-43 < T < 100^\circ\text{C}$) ★ Furnace ($50 < T < 300^\circ\text{C}$) ★ Cryostat (2 K) and displax (10 K). ★ Magnetic field $H < 2 \text{ T}$ ★ Computer controlled Couette type viscosimeter ★ Automatic sample changer in electromagnet |

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 periodical 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 ^{60}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 ($\pm 20^\circ$) and two independent rotating tables, one for heavy charge ($\sim 800 \text{ kg}$).

Various sample environments can be chosen such 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 128×128 cells of $5 \times 5 \text{ mm}^2$, 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} \AA^{-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.



General layout of the spectrometer G 2-3.



Intensity in a cell of the detector versus incident wavelength (λ) and for various sample detector distances (D).

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