

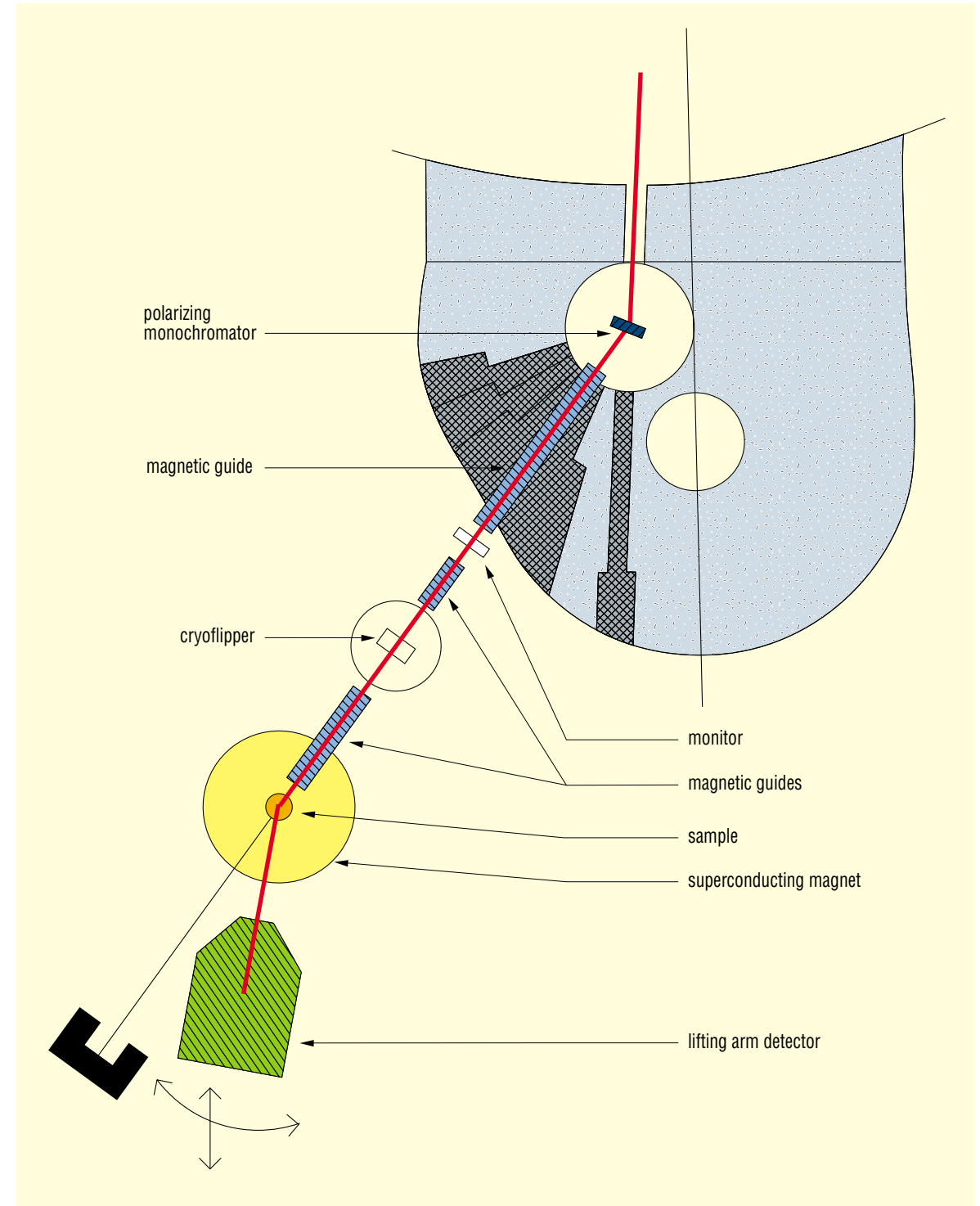
Beam tube .....	5 C1 Hot source
Monochromator .....	Heusler Cu <sub>2</sub> MnAl (111)
Collimation .....	Horizontal divergence before the monochromator 58', 28' or 14'
Type of instrument .....	two-axis ; lifting arm detector polarized neutrons
Max. beam size at specimen .....	20 x 20 mm
Incident wavelength .....	$\lambda = 0.84 \text{ \AA}$
Angular ranges .....	Detector : 0, 120° in the horizontal plane -5, + 18° in the vertical plane
Minimum step size scan .....	0.01°
Detector .....	<sup>3</sup> He counter
Data collection and Instrument control system .....	PC Data are transferred to a SUN computer for further treatment.
<u>Ancillary equipment</u>	★ Cryostat from 1.5 K → 300 K. ★ Cryomagnet H < 7.8 Tesla

The diffractometer is devoted to the determination of the magnetic structure factors, using an incident polarized neutron beam ; it is utilized for magnetic form factor and magnetization density studies on single crystals.

The polarization direction of the incident neutrons is defined by a magnetic guide field and can be inverted with the help of a cryogenic flipping device. A strong magnetic field is applied to the sample.

The intensities I<sub>+</sub> and I<sub>-</sub>, diffracted by the sample, are measured when the incident neutrons are respectively polarized parallel (+) or antiparallel (-) to the applied magnetic field. The flipping ratio R = I<sub>+</sub>/I<sub>-</sub>, is thus measured for each Bragg reflection, and gives access to the magnetic structure factor, knowing previously the nuclear structure factor.

The wavelength is 0.84 Å (maximum of the flux of the hot source). This short wavelength allows the investigation of a large domain of reciprocal space.



General layout of the spectrometer 5 C1.

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