### Beam tube
- Type of instrument: two-axis; lifting arm detector
- Max. beam size at specimen: 20 x 20 mm
- Angular ranges: 0°, 120° in the horizontal plane
- 0°, 18° in the vertical plane
- Detector: He counter
- Data collection and Instrument control system: PC

### Polarized Hot Neutron Two-Axis Spectrometer
- Monochromator: Heusler Cu₂MnAl (111)
- Collimation: Horizontal divergence before the monochromator 58°, 28° or 14°
- Incident wavelength: \( \lambda = 0.84 \text{ Å} \)
- Angular ranges: 0°, 120° in the horizontal plane
- 0°, 18° in the vertical plane
- Minimum step size scan: 0.01°

### Ancillary equipment
- Cryostat from 1.5 K → 300 K.
- Cryomagnet H < 7.8 Tesla

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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 \( I^+ \) and \( I^- \), diffracted by the sample, are measured when the incident neutrons are respectively polarized parallel (+) or antiparallel (-) to the applied magnetic field. The flipping ratio \( R = I^+ / I^- \), 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.

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**General layout of the spectrometer 5 C1.**

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