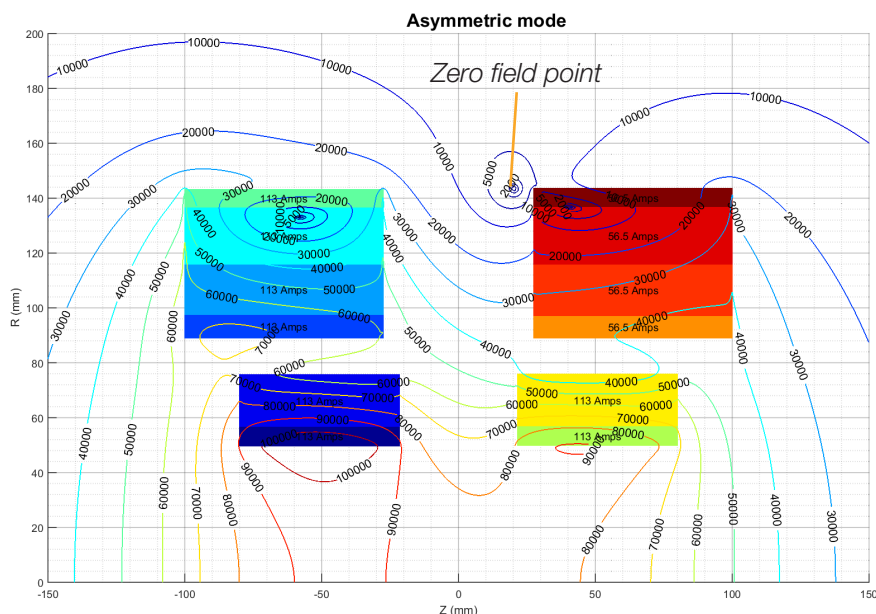
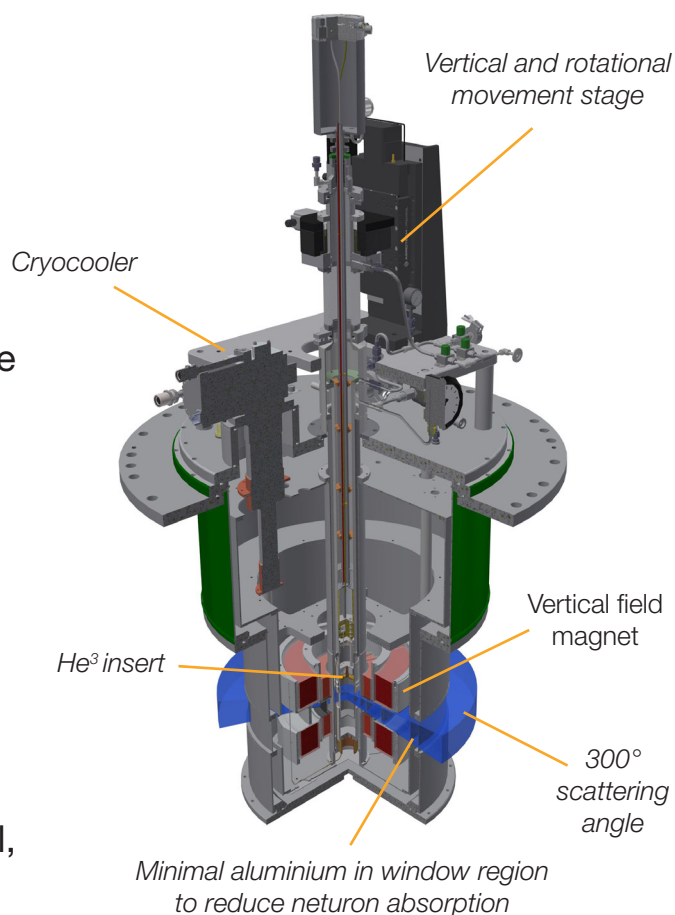


CRYOGEN-FREE VERTICAL FIELD SYMMETRIC / ASYMMETRIC SPLIT PAIR MAGNET SYSTEM FOR NEUTRON SCATTERING EXPERIMENTS



- 10 T symmetric field magnet operation mode
- 8.4 T asymmetric field magnet operation mode with the zero-field point shifted 20 mm from central plane
- Magnet former optimised for minimal neutron absorption
- Integrated VTI for <math><1.6\text{ K}</math> to 375 K operation
- Top loading ^3He Insert for temperatures down to 300 mK
- Manipulation stage allowing $\pm 180^\circ$ rotational, $\pm 15\text{ mm}$ vertical movement



Technical Specifications: Model CFM-10TSA-CFVTI-50-H2

Magnet	
Neutron beam (horizontal plane) access	Up to 300 degrees
Total radial angular access	Compatible for use with beam 20 mm wide and 30 mm height
Vertical access	±5 degrees scattering angle to 20 mm high sample Maximum 15 mm Al in beam (RT to sample) Cadmium shielding on surface of magnet exposed to neutron beam
Power supply current output	Reversible output Output set/control: 20 bit (1 ppm full SMS unit range) Output stability: 3 to 5 ppm/K (3-5 ppm of full SMS unit output)
Symmetric mode magnet operation	±10.0 T (vertical) @ ≤4.2 K 0.2% central homogeneity (10 mm dsv) ~113 A for 10.0T
Asymmetric mode (differential current magnet operation)	±8.4 T (vertical) @ ≤4.2 K 1.5% central homogeneity (10 mm dsv) ~ 56.5 A negative current for maximum asymmetry (zero field point ~20 mm off-axis)
Variable temperature	
VTI heat exchanger temperature range	1.6 K to 375 K Sample in exchange gas
Maximum sample space in VTI	Ø50 mm diameter, 30 mm high cylinder
He-3	
Sample space maximum diameter	Ø36mm clear
Initial Cooldown time	2 hours from room temperature sample change to 3He condensation temperature
Re-condensation time	Up to 90 mins
Performance range (typical) at 3He pot 5l STP (4.5l active)	300mK for 76 hr, 0µW; 310mK for 46 hr, 10µW; 350mK for 25 hr, 30µW; 450mK for 9.9 hr, 100µW;