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【118】A sacrificial magnet system for field dependent surface science studies

Tuesday 28 June 2022 16:00 (15 minutes)

We describe the design and characterization of using a NbFeB permanent magnet system to retrofit existing experiments with a magnetic field around 200mT. The design is compatible with UHV high-temperature sample cleaning routines which are normally above the Curie temperature of a permanent magnet.

We characterize the flux density distribution with superconducting vortices in NbSe2 and BSCCO and demonstrate the life-cycle of the magnet from sample preparation to characterization.

Our magnet provides an accessible way to field-dependent surface science studies, ranging from vortices in high-temperature superconductors to STM-enabled electron spin resonance.

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