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Temperature Sample Environment for the High Field Magnet at the Helmholtz-Zentrum Berlin

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The Helmholtz-Zentrum Berlin with its expertise on high magnetic fields for neutron scattering has successfully installed a high field magnet (HFM) that has set a new record for static magnetic fields for neutron scattering. A magnetic field of 26.286 T was reached on October, 16th 2014. Since early 2015 the HFM is integrated in the neutron instrument ExED (TOF) representing a worldwide unique research instrument.

For the HFM there are different temperature inserts available: a ^3He -Insert for temperatures down below 0.8 K, a ^4He cryostat with a base temperature just below 2 K and a $^3\text{He}/^4\text{He}$ dilution cryostat. The ^4He cryostat is equipped with a cold rotation stage powered by a piezo motor.

In this presentation we will report about the present status of the temperature sample environment for the HFM, highlight the technical challenges and give an overview of the future developments.

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