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Status of the magnetic shield for the muEDM experiment

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The muEDM collaboration is aiming at measuring the electric dipole moment of the muon with unprecedented sensitivity of $\sigma(d_\mu) = 6 \cdot 10^{23}\mathrm{ecm}$ at the Paul Scherrer Institute. The experiment uses the frozen-spin technique inside a 3-T superconducting solenoid magnet. One of the key parts of the experiment is the superconducting injection channels. They create magnetic field free regions, which are used to transport muons through the fringe field into the uniform magnetic field inside the bore of the solenoid. The injection channels are using superconducting Nb-Ti/Nb/Cu layered sheets rolled into a cylinder with a slit. During operation, the injection channels must be cooled to around 4.5 K temperature. We present the current status of the superconducting magnetic shield for the phase I experiment, aiming at the first demonstration of the frozen spin technique with a sensitivity of $4 \cdot 10^{-21}\mathrm{ecm}$, which is currently being assembled at PSI.

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