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Progress of SUNDAE2 magnetic measurement setup for superconducting undulators at European XFEL

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At European XFEL up to six superconducting undulators with 18 mm period and 1.83 T magnetic field are planned to enlarge the hard X-ray photon range above 30 keV. Currently, S-PRESSO, a prototype with 2x 2m long undulator sections plus phase shifter in a 5m long cryostat is being produced.

The SUNDAE2 (Superconducting UNDulAtor Experiment 2) magnetic field test facility aims to perform in-vacuum magnetic field measurements of superconducting undulators (SCUs). This work provides an update on the progress of SUNDAE2, which employs Hall probe, moving wire, and pulsed wire techniques for precise magnetic field characterization to meet the specifications for the FEL operation.

Footnotes

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