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The SHiP Experiment

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The BDF/SHiP collaboration has proposed a general-purpose intensity-frontier experimental facility operating in beam-dump mode at the 400 GeV CERN SPS accelerator to search for feebly interacting GeV-scale particles and to perform measurements in neutrino physics. CERN is uniquely suited for this programme owing to the proton energy and yield available at the SPS. In March 2024 the facility got approved at CERN and the final TDRs for the BDF and the SHiP detectors are under preparation.

In this talk we will discuss the experimental methods, the SHiP detector set-up, the different sub-detectors, and sensitivities to new particles such as axion-like particles, dark scalars, heavy neutral leptons, light dark matter particles and more, as well as the presently foreseen schedule towards first data.

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