

PRISMA+ Colloquium

Dec. 14, 2022 at 1 p.m. Lorentz-Raum, 05-127, Staudingerweg 7

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The search for feebly-interacting particles with the SHADOWS project at CERN

With the establishment and maturation of the experimental programs searching for New Physics with sizeable couplings at the LHC, there is an increasing interest in the broader particle and astroparticle community for exploring the physics of light and feebly-interacting particles (FIPs) as a paradigm complementary to a New Physics sector at the TeV scale and beyond.

SHADOWS is a new experiment proposed at the CERN North Area to search for a large variety of FIPs produced in the interactions of a proton beam with a dump. It will use the 400 GeV primary proton beam extracted from the CERN SPS currently serving the NA62 experiment. SHADOWS can expand the exploration for a large variety of FIPs well beyond the state of the art in the MeV-GeV mass range which is allowed by cosmological and astrophysical observations and become one of the main players in the search for FIPs at accelerators in the next decade.

After an introduction about the current plans for searching for FIPs at CERN within the Physics Beyond Colliders activity the referent will present the status of the SHADOWS project.



