

Mini-workshop on opportunities to reveal New Physics with feebly-interacting particles and ultra-rare decays in experiments with extracted SPS beams at the CERN North Area

Contribution ID: 2

Type: **not specified**

The search for Feebly-Interacting Particles within the Physics Beyond Colliders activity at CERN

Thursday, 10 June 2021 14:40 (25 minutes)

The absence so far of unambiguous signals of New Physics from direct searches at the LHC, indirect searches in flavour physics and direct Dark Matter detection experiments invigorates the need for broadening the experimental effort in the quest for New Physics and in exploring ranges of interaction strengths and masses different from those already covered by existing or planned projects.

Feebly-interacting particles (FIPs) represent an alternative paradigm with respect to the traditional BSM physics explored at the LHC and their search has been recognized by the European Strategy for Particle Physics update as one of the essential activities in particle physics to be pursued in the next decade.

The investigation of this paradigm over a large range of couplings and masses requires a great variety of experimental facilities. I will present the current plans for searching for FIPs at CERN within the new Physics Beyond Colliders activity and the newly established FIP Physics Centre.

Presenter: LANFRANCHI, Gaia (LNF)