

Searching for new physics beyond the energy frontier



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APERO
after the
colloquium

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CE1 3

Heavy flavour, long-lived particles and the next generation experiments:

Despite extensive searches at the highest collision energies, the nature of physics beyond the Standard Model remains unknown.

New phenomena may instead reveal themselves through rare processes or feebly coupled states, emerging as long-lived particles in the detectors.

I will present a programme exploring these complementary frontiers, from heavy-flavour studies and long-lived-particle searches at the LHC to the dedicated hidden-sector experiment SHiP, and discuss how new analysis techniques and detector concepts can extend our knowledge.

I will conclude with perspectives for the next generation of experiments at the FCC.