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【313】 Beyond colliders: exploring the dark sector with beam dumps

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Given the lack of smoking gun signatures that point to an energy scale to be explored, the landscape of post LHC Run2 motivates searching for new physics in a region that has not been well covered so far, i.e. physics involving new interactions much weaker than the electroweak scale.

Beam dump facilities of high intensity electron and proton beams can probe an unexplored parameter space of couplings and masses for a wide range of SM extensions, empowering a diverse physics program that covers searches for DM, HS, Axions and Flavour physics. This talk will review the experimental perspectives for beam dump searches, with a focus on the CERN Beam Dump Facility and on SHiP, the first zero-background proton dump experiment.

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