

BSM Opportunities at Beam-Dump Experiments

In this talk, I will discuss various BSM opportunities available at beam-dump-type experiments including beam-produced neutrino experiments. Due to the weakly interacting nature of neutrinos, high-intensity beam-based experiments are well-motivated. Inside the beam target of these experiments, plenty of MeV-scale mesons and MeV-to-GeV scale electromagnetic particles such as electrons, positrons, and photons are produced and they can be good sources of MeV-range BSM physics. As concrete example studies, I will discuss MeV-scale light dark matter and light mediator searches in these experiments. I will then motivate very short baseline experiments in the context of mediator searches and introduce the concept of proposed “portable” DAMSA experiments.

Presenter: Dr KIM, Doojin (Texas A&M University)

Session Classification: Plenary 1