

R&D for the Dark SHINE hadronic calorimeter

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There has been overwhelming astrophysical evidence that dark matter exists, though it has eluded direct detection so far. The Dark SHINE experiment in Shanghai aims to study the interaction between dark matter and ordinary matter using high-intensity single-electron beam. It will look for missing energy and momentum signals in electron collisions with a Tungsten target. In order to veto rare processes in the Standard Model, such as the electronuclear, photonuclear and dimuon production processes, a hadronic calorimeter with high detection efficiency is needed. In this poster, we will present the current status of the R&D of a baseline hadronic calorimeter, which is consisted of steel absorption layers and scintillator strips with wavelength shifting fibers.

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