

Abstract Submitted  
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**Design of a Beam-Monitor Detector for the MUSE Experiment at PSI** MARY MULHOLLAND, STEFFEN STRAUCH, University of South Carolina, PAUL SCHERRER INSTITUT COLLABORATION — This project focuses on the model of the detector placed downstream of the beam in the Muon Scattering Experiment (MUSE). The beam-monitor is a collection of scintillator bars connected to photomultiplier tubes. Its primary function is to monitor the RF timing of the beam particles, which include electrons, møller electrons, muons, and pions of three momenta. Geant4 software is used to run simulations to test a rectangular and a circular design of the monitor. The task is to determine the most efficient design of the scintillator while meeting the requirements of the photomultiplier tubes. The simulations will reveal which design should be manufactured for conducting the physical experiment.

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