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Integration of the CAEN Front-End Readout System for Calorimeters within the miniSPD Setup

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The integration and application of the CAEN front-end readout system within the miniSPD facility is presented, with a focus on calorimeter modules. The miniSPD is designed for cosmic muon testing of the detectors planned for use in the SPD facility, including straw, silicon, and GEM trackers, along with electromagnetic calorimeters. The main objectives include verifying the functionality and performance of modern electronics, testing the CAEN system's suitability for miniSPD, and obtaining real cosmic ray data. By using prototype detectors and measuring key detector parameters such as spatial and temporal resolution, efficiency, and stability, this work aims to assess the system's long-term operation reliability. The system was tested to produce key spectra, including the staircase spectrum, Landau distribution, and cosmic ray data, with additional upcoming results focused on SPD calorimeters. The results of using this electronics for straw-tracker prototypes are also presented, where the spectra of Fe-55 and Ru-106 are shown.

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