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## The Tungsten-Scintillating Fiber Accordion Electromagnetic Calorimeter for the sPHENIX Detector

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The PHENIX Experiment is planning a major upgrade to enhance its capabilities to measure jets in heavy ion collisions, as well as in p+A, polarized proton, and eventually e-A collisions at the Electron Ion Collider. One of the major new components of this upgrade will be a new compact electromagnetic calorimeter covering  $\pm 1$  units in pseudorapidity and  $2\pi$  in phi. It will consist of a matrix of tungsten plates, tungsten powder, scintillating fibers and epoxy formed into an accordion structure that will have a small Moliere radius and short radiation length, thus allowing the calorimeter to have a high degree of segmentation for measuring jets at a relatively small radius and providing a compact design for the sPHENIX detector. The scintillating fibers will be read out using silicon photomultipliers that will be required to operate in the fringe field of the sPHENIX solenoid magnet and will include a new electronic readout system. The overall design of the calorimeter will be described, along with the R&D effort currently under way to develop the detector and its expected performance based on Monte Carlo simulations.

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