Abstract Submitted
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A Tungsten Powder Epoxy Scintillating Fiber EMCAL for sPHENIX VERA LOGGINS, Univ of Illinois - Urbana — The sPHENIX detector is a proposed new detector at the Relativistic Heavy Ion Collider (RHIC). The sPHENIX physics program focuses on jets and hard probes of the quark gluon plasma (QGP). The proposed design of the electromagnetic calorimeter (EMCAL), made of a tungsten powder and epoxy composite with embedded scintillating fibers, is designed to have a small Moliere radius and short radiation length, and will be located at a radius of about 90 cm from the interaction region. It will have an energy resolution $12\%/\sqrt{E}$ and will be used in conjunction with a new hadronic calorimeter (HCAL) to provide a jet energy resolution $\sigma_E/E = 120\%/\sqrt{E}$ to resolve single photons and electrons, as well as photon jets, in the high multiplicity environment of central heavy ion collisions. The η and ϕ segmentation of the EMCAL is 0.024 x 0.024. Preliminary tests of the calorimeter design have already taken place. In this talk, I will focus on the process of building these prototype modules and the preparation of the modules for the test beam at Fermilab in 2016.

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