Abstract Submitted
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Measuring neutron flow with an upgrade of the CMS Zero Degree Calorimeter JESSICA SNYDER, MICHAEL MURRAY, University of Kansas — One of the most exciting recent results in nuclear physics is the discovering that lead-lead collisions produced at the Relativistic Heavy Ion Collider, RHIC, produce an almost perfect fluid of quarks and gluons. This state was identified by the "flow" of particles. The Large Hadron Collider, LHC, will study gold-gold collisions at an energy 28 times higher. It is possible that this higher energy will produce a gas rather than a liquid in which gas we should be able to detect flow. We hope to detect flow by measuring the pattern of neutrons emitted along the beam axis using two detectors inserted between the electromagnetic and hadronic sections of the CMS ZDCs, https://zdc.web.cern.ch/ZDC/ . I will present results of GEANT simulations of such a detector and make estimates of it capabilities to measure neutron flow.

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