GEANT4 Hadron Monitor Simulation Studies for the Long-Baseline Neutrino Facility TIMOTHY WATSON, AMIT BASHYAL, JAE-HOON YU, University of Texas at Arlington, LONG BASELINE NEUTRINO FACILITY COLLABORATION — The hadron monitor to be incorporated into the beamline of the Long-Baseline Neutrino Facility at Fermilab is a crucial tool for alignment purposes as well as the correct functionality of the beam. Designing such a hadron monitor requires careful consideration of the challenges presented. The high-radiation environment from the considerably higher proton beam power expected for LBNF at the monitor location coupled with the need for relatively higher spatial resolution from the monitor will require an innovative new detector technology and design. To this end, computer simulations are a useful tool. Presented here are the results of hadron monitor design studies simulated using GEANT4.

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