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A Flexible Geometry Simulation for the DUNE Near Detector Hall PERRI ZILBERMAN[1], Stony Brook University, DEEP UNDERGROUND NEUTRINO EXPERIMENT COLLABORATION — The Deep Underground Neutrino Experiment (DUNE) is a next-generation long-baseline neutrino experiment. Projected to start taking data in the 2020s, DUNE involves a 1.2 MW neutrino beam from Fermilabs Long Baseline Neutrino Facility (LBNF) and a 40-kt liquid argon TPC Far Detector at the Sanford Underground Research Facility (SURF), coupled with a Near Detector (ND) placed 574 m downstream of the neutrino beam production target. The DUNE ND is crucial for controlling systematic uncertainties at the Far Detector, in particular for the CP violation measurement, and will itself be an important source of data for investigating neutrino-interaction physics. While the conceptual design of the DUNE ND is largely finalized, detailed simulation studies are required for optimizing the DUNE ND configuration details. In this talk, we will discuss a DUNE ND geometry created using the General Geometry Description (GGD) software, which allows easy manipulation of detector geometries and configurations. This geometry is currently in use by the DUNE ND Software Group for GENIE, an MC neutrino interaction event generator, sample generation and subsequent simulation studies.

[1]On behalf of the DUNE collaboration

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