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Optimizing the Monte Carlo Simulation for the DarkSide Detector¹ MATTHEW SMALLCOMB, ANDREW ALTON, Augustana Coll -Sioux Falls, DARKSIDE COLLABORATION — My goal was to test and help optimize the new Monte Carlo simulator being developed by Davide Franco of the DarkSide collaboration. Developing a robust optical simulation of the Darkside-50 detector is essential for understanding the behavior of background events and is necessary for showing proof of concepts in order to procure funding for the project. I spent the summer looking at reproducing event positions from simulation data and comparing detector data and simulation results of the ratio between light detected on the top and bottom photomultiplier tubes. Testing showed that there were some critical changes that need to be implemented in the simulation.

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Matthew Smallcomb Augustana Coll - Sioux Falls

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