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Status update of various simulation components for P-ONE.

The Pacific Ocean Neutrino Experiment (P-ONE) is a planned cubic-kilometer-scale Cherenkov neutrino telescope that will be deployed off the West Coast of Canada. To evaluate the performance of the telescope and support future analyses, it is essential to have accurate simulations of neutrino interactions and background sources. This contribution provides an overview of the current status of various components used in waterbased neutrino telescope simulation. These include characterization and simulation of backgrounds, including ⁴⁰K decays and bioluminescence, studies on the simulation of muons, neutrinos, and cascade generation, as well as new photon propagation techniques. In particular, emphasis will be given to recent developments that are tailored specifically for P-ONE.

Collaboration(s)

P-ONE collaboration

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