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Estimating Neutrino Oscillation Parameter Sensitivities for LBNE with GLoBES MATTHEW BASS, ROBERT WILSON, Colorado State University — The Long Baseline Neutrino Experiment (LBNE) is being designed primarily to explore the neutrino mixing parameters. With a proposed baseline of 1300 km, the experiment will be especially capable in searching for CP violation and determining the neutrino mass hierarchy. It is critical to determine the experimental requirements in terms of the physics goals of sensitivity to CP violation, mass hierarchy, and θ_{13} in a ν_μ to ν_e oscillation analysis. In this study the General Long Baseline Experiment Simulator (GLoBES) is used to characterize sensitivity to these parameters in terms of detector technology (Liquid Argon or Water Cerenkov), neutrino running times, and background systematics.

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