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## **PMT Light Collection Enhancement for LBNE**

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A large (100-300 kton) water Cerenkov detector is one of the technologies under consideration for the far detector of the Long Baseline Neutrino Experiment (LBNE). The significant cost of instrumenting the large detector with photomultiplier tubes restricts the number of PMTs that can be used and hence methods for improving the effective light collection efficiencies of the PMTs are being considered. The three light collection technologies currently under study, wavelength-shifting coatings, reflective cones, and wavelength-shifting plates, will be discussed. Design, simulation, and testing of the devices, as well as potential effects on the experiment physics sensitivity, will be covered.

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