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Water Cherenkov Test Experiment

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Water Cherenkov Test Experiment (WCTE) is a proposed experiment at CERN that will study the response of a small water Cherenkov detector in hadron, electron, and muon low momentum beams. The aim of the experiment is to test new photosensor technologies such as multi-PMT modules and apply calibration techniques with known particle fluxes to validate 1% level calibration at the GeV scale. Additionally, we will measure physics processes such as Cherenkov light production, pion scattering, and secondary neutron production. Precise calibration and accurate measurements of physical processes inside the detector are of utmost importance for the success of Hyper-Kamiokande, the next generation long-baseline neutrino experiment in Japan. This talk describes the WCTE physics program and detector design.

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