

# Water Cherenkov Test Experiment

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Water Cherenkov detectors have a long history of being successfully used for neutrino oscillation and nucleon decay measurements. With the increase in collected data, the reduction of systematic uncertainties becomes essential.

Water Cherenkov Test Experiment (WCTE) is a proposed experiment at CERN that will study the response of a small water Cherenkov detector in a low momentum beam. The experiment will be used to test new photo-sensor technologies, apply calibration techniques with known particle fluxes to validate 1% level calibration at GeV scale, and measure physics processes such as Cherenkov light production, secondary neutron production and pion scattering. The experiment will also include a compact hadron spectrometer with a target to produce and characterize particle fluxes entering the water Cherenkov detector. We present the design of the small water Cherenkov detector and accompanying spectrometer along with the overview of the WCTE physics program.

## **TIPP2020 abstract resubmission?**

No, this is an entirely new submission.

## **Funding information**

**Primary author:** Dr PAVIN, Matej (TRIUMF)

**Presenter:** Dr PAVIN, Matej (TRIUMF)

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