



Contribution ID: 312

Type: Poster

## CNO Solar Neutrino Flux Sensitivity with Theia

Theia is a proposed multi-kiloton scale advanced optical neutrino detector with a broad range of physics goals. By employing water-based liquid scintillator (WbLS) or a similar technology, Theia will be able to harness the high light yield of liquid scintillator detectors with the direction reconstruction capability of water Cherenkov detectors. One physics goal is to leverage these capabilities to study the as-yet-undetected CNO neutrino flux, in order to help resolve uncertainties regarding solar metallicity. In this poster, we discuss the physics potential for measurement of the CNO flux in various possible Theia detector configurations, considering different sizes, targets, angular resolutions, background levels and more. We show sensitivity to the flux normalization at the several percent-level for a range of configurations. We also discuss other potential opportunities for solar neutrino physics in Theia.

### Mini-abstract

CNO solar neutrino flux sensitivity with Theia, a multi-kiloton advanced optical neutrino detector

### Experiment/Collaboration

Theia Collaboration

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**Session Classification:** Poster session 3