

## The Discovery Potential of Theia

### Authorship annotation

for the Theia Collaboration

### Session and Location

Monday Session, Poster Wall #123 (Auditorium Gallery Left)

### Abstract content

The emergence of Water-based Liquid Scintillator (WbLS) and ultra-fast, high-efficiency photon detection has opened up new avenues in neutrino detector development. WbLS provides a mechanism for tuning light yields and loading isotopes and metallic ions. Using WbLS in-situ with fast photon sensors could yield directional information from Cherenkov light further enhancing background rejection and particle identification. Theia plans to use these technologies in a large-scale detector that can be optimized for a wide range of science. This includes, but is not limited to, long-baseline neutrino oscillations, neutrinoless double beta decay, solar neutrinos, geo-neutrinos, supernova neutrinos, and proton decay. This poster will summarize recent studies of Theia's sensitivity to the highest-priority questions in neutrino physics.

### Poster included in proceedings:

yes

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**Session Classification :** Poster Session Monday

**Track Classification :** Poster (not participating in poster prize competition)