

# Measuring Solar Neutrino Oscillations in the SNO+ Detector

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The SNO+ experiment is a large multi-purpose neutrino detector, currently filled with liquid scintillator. For the first time in a single experiment, SNO+ is able to measure the neutrino oscillation parameters  $\theta_{12}$  and  $\Delta m^2_{21}$  simultaneously through both reactor anti-neutrinos and Boron-8 solar neutrinos. This poster demonstrates the latter approach, with an analysis of scintillator phase data. A Bayesian statistical approach via Markov Chain Monte Carlo is used, allowing for the simultaneous fitting of the oscillation parameters, Boron-8 neutrino flux, background components with constraints, and floating systematics. A sensitivity study shows that this measurement is statistics-limited, and precision could be improved by a factor of two with two years of livetime, assuming the same backgrounds and selections.

## Poster prize

Yes

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SNO+

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