

Abstract Submitted
for the APR11 Meeting of
The American Physical Society

Precision Measurement of the ^7Be Solar Neutrino Flux with the Borexino Detector RICHARD SALDANHA, Princeton University, BOREXINO COLLABORATION — Borexino is a low-background liquid scintillator detector, designed to measure the flux of sub-MeV solar neutrinos. Recent results from the Borexino collaboration include a low-energy-threshold measurement of the ^8B solar neutrinos and the first observation of geo-neutrinos at more than 4σ confidence level. Work is currently underway to try to obtain a measurement of the ^7Be solar neutrino rate with an uncertainty of $\leq 5\%$. In order to achieve this level of precision, an extensive calibration campaign was undertaken along with a careful estimation of all the systematics associated with the analysis. A result with this precision would be the best determination of the ^7Be neutrino flux to date and would test the LMA-MSW oscillation model in the vacuum regime as well as improve our understanding of the Standard Solar Model.

Richard Saldanha
Princeton University

Date submitted: 14 Jan 2011

Electronic form version 1.4