

Abstract Submitted
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Prospects for the measurement of pep and CNO solar neutrino rates with Borexino ALVARO CHAVARRIA, Princeton University, BOREXINO COLLABORATION — Borexino is the only detector currently able to perform neutrino spectroscopy below 2 MeV. The Borexino Collaboration has already published the first and only real-time measurement of the ${}^7\text{Be}$ neutrino flux from the Sun. Of great interest are also the measurements of the CNO and pep neutrino rates. Knowledge of the CNO neutrino rate is key to answer the Solar Metallicity Problem, while the pep neutrinos are an excellent probe for the vacuum-matter transition region of the LMA-MSW solution to the Solar Neutrino Problem. The main challenge for these measurements is the characterization and removal of cosmogenic and radiogenic background in the scintillator. I will present data analysis techniques that can significantly reduce the cosmogenic ${}^{11}\text{C}$ background in Borexino's energy spectrum, which should allow for the measurement of the pep neutrino rate. Additionally, I will discuss the status of the detector in terms of radiogenic background and the possibility for the eventual measurement of the CNO neutrino rate with Borexino.

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