

## **Latest Phase-II results and Prospects of CNO neutrino detection with Borexino**

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Borexino as the leading liquid-scintillator-based low background experiment has given opportunities for a vast number of physics programs. After extensive water extraction campaign during 2011, the purity of liquid scintillator is even better. With 1291.51 days of Borexino Phase-II data collected since then, we performed for the first time a global fit and simultaneous measurement of interaction rates of pp,  ${}^7\text{Be}$ , and pep solar neutrinos in an extended energy range (0.19–2.93) MeV. With enlarged exposure, we also updated the  $\text{B}^8$  solar neutrino analysis. What's more, after sequences of operations, we improved the stability of the detector temperature profile such that the convective circulation in the Inner Detector's liquid scintillator has been significantly reduced, particularly in the top center region, which is the main challenge of solar CNO detection. In this talk, I will review Borexino's physics result on geo-neutrinos and present the new analysis of solar neutrinos with Phase-II data and their physics impact, as well as prospects of solar CNO neutrino detection.

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