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## Results and future perspectives of Borexino

*Thursday, 27 February 2020 16:10 (30 minutes)*

The Borexino liquid scintillator neutrino observatory is devoted to perform high-precision neutrino observations: the study of solar neutrinos is the primary goal of the experiment. The exceptional radiopurity together with the good energy resolution (5% at 1 MeV) put Borexino in the unique situation of being able to validate the MSW-LMA oscillation paradigm across the full solar energy range. A comprehensive study of the pp-chain neutrinos was recently released: this new study reports the direct measurements of pp,  ${}^7\text{Be}$  and pep neutrino fluxes with the highest precision ever achieved (down to  $\sim 2.8\%$  in the  ${}^7\text{Be}$  component), the  ${}^8\text{B}$  with the lowest energy threshold, the best limit on CNO neutrinos and the first Borexino limit on hep neutrinos. The present talk shows the new results based on the full 10 years data sample and, in particular, on the more radiopure Phase-2 data, taken after the detector purification campaigns in 2010-11 and the perspectives for the final stage of the solar program. The talk will be concluded reporting the latest news on the detection of geoneutrinos with Borexino and the analysis techniques applied.

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