

Low-energy neutrino detection with Borexino

Borexino is the world radio-purest large-volume liquid-scintillator detector placed at the Laboratori Nazionali del Gran Sasso in Italy. Since the start of its data taking in May 2007, it has provided several measurements of solar neutrinos, important for the understanding of our star, as well as of the neutrino properties. In particular, Borexino has performed the first spectroscopic measurements of the pp, ${}^7\text{Be}$, and pep solar neutrinos, the measurement of the ${}^8\text{B}$ neutrinos with the 3 MeV energy threshold, and has provided the best current limit on the CNO solar neutrinos and on the effective neutrino magnetic moment. The talk will describe in detail the newly updated solar neutrino results, based on the Phase-2 data with significantly lowered radioactive background. Borexino results on geoneutrinos, antineutrinos emitted along the decay of long-lived radioactive elements inside the Earth, will be also presented. The talk will be given in name of Borexino Collaboration.

Primary author: Prof. LUDHOVA, Livia (Forschungszentrum Juelich)

Presenter: Prof. LUDHOVA, Livia (Forschungszentrum Juelich)