

# First detection of solar neutrinos from CNO cycle with Borexino

*Thursday, 30 July 2020 08:00 (15 minutes)*

Borexino is running at the “Laboratori del Gran Sasso” in Italy since 2007. Its major distinctive feature is the unprecedented ultralow background of the inner scintillating core, which is the foundation of the outstanding achievements it has accumulated over the years.

In the present talk, after recalling the main features of the detector, the impressive solar data gathered so far by the experiment will be summarized.

Special emphasis will be given to the new and striking results on solar neutrinos in the 1 MeV range revealed for the first time by Borexino, a detection which crowns the long quest of the experiment to chase the neutrino components from the whole set of the nuclear reactions occurring in the core of our star.

Together with the already measured neutrinos from the pp chain, such a result put Borexino in the unique situation of being the only detector able to perform solar neutrino spectroscopy over the entire solar spectrum. The talk will be concluded outlining the implications of the Borexino data in the understanding of the flavor conversion of the solar neutrino flux, in particular with the full validation across the solar energy range of the MSW-LMA oscillation paradigm.

## I read the instructions

## Secondary track (number)

**Presenter:** IANNI, Aldo (INFN LNGS)

**Session Classification:** Neutrino Physics

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