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Borexino: recent solar and terrestrial neutrino results

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The first phase of the Borexino experiment, currently running at the Laboratori del Gran Sasso in Italy, has been completed in 2010, and after a successful purification campaign which have further brought down the background levels, a second data taking phase is now in progress, started in October 2011.

In this talk, after recalling the main features of the detector, the final results of Phase 1 will be summarized, as well as the first outcomes of Phase 2, namely: a new measurement of the geoneutrino flux, the detection of the imprinting of the annual modulation in the solar neutrino signal, the full understanding of the cosmogenic backgrounds and the recent limits on heavy sterile neutrino mixing in 8B decay. Moreover, the full perspectives for solar neutrinos with the whole amount of data planned to be taken in Phase 2 will be given, emphasizing the unique possibility of Borexino to cover at the end of its program the entire solar neutrino spectrum, including the two important and challenging still missing pieces represented by pp and CNO neutrinos.

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