Laboratório de Instrumentação e Física Experimental de Partículas

Seminário LIP

Quinta Feira, 28 de Novembro, 11h30

First results of the SNO+ experiment

Valentina Lozza
(LIP & FCUL)

SNO+ is a large multi-purpose liquid scintillator based experiment, with the main physics goal of searching for the neutrinoless double-beta decay of 130Te.
The first of the three SNO+ phases has started in May 2017, with the detector filled with ultra-pure water. The deep underground location (6000 m.w.e.) and the low background levels, allowed new physics searches and the 8B solar neutrino flux measurement in the 5-10 MeV energy range.
This talk focuses on the first two physics results of the initial water phase published in early 2019: the search for the nucleon (neutron and proton) decays into invisible modes (i.e. into three neutrinos), and the confirmation of the 8B neutrino flux above 6 MeV energy (background free).
Currently, SNO+ has began the transition to the scintillator phase. The double-beta decay phase is expected to start in early 2020, when the ultra-pure liquid scintillator will be loaded with 3.9 tonnes of natural tellurium, for a half-life sensitivity larger than 2×10^{26} years.

Local: Sala de Seminários (311)
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(Café e bolinhos 30 min antes)
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