

CeSOX: An experimental test of the sterile neutrino hypothesis with Borexino

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The third phase of the Borexino experiment that's referred to as SOX is devoted to test the hypothesis of the existence of one (or more) sterile neutrinos at a short baseline (~5-10 m). The experimental measurement will be made with artificial sources namely with a ^{144}Ce - ^{144}Pr antineutrino source at the first stage (CeSOX) and possibly with a ^{51}Cr neutrino source at the second one. The fixed ^{144}Ce - ^{144}Pr sample will be placed beneath the detector in a special pit and the initial activity will be about 100-150 kCi. The start of data taking is scheduled for April 2018. The presentation gives a detailed description of the preparation for the first stage and shows the expected sensitivity.

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