

The ANAIS-112 experiment at the Canfranc Underground Laboratory

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The ANAIS (Annual modulation with NaI(Tl) Scintillators) experiment aims at the confirmation of the DAMA/LIBRA signal using the same target and technique at the Canfranc Underground Laboratory (LSC). Several 12.5 kg NaI(Tl) modules produced by Alpha Spectra Inc. have been operated in Canfranc during the last years in various set-ups; an outstanding light collection at the level of 15 photoelectrons per keV, which allows triggering at 1 keV of visible energy, has been measured for all of them and a complete characterization of their background has been achieved. The crystal contamination is the main background source in the very low energy region of interest and the activity of the main contributors, like ^{40}K and ^{210}Pb , has been assessed; improvements implemented during the manufacture of the different detectors have resulted in a reduction of the activities in the last crystals produced. In the first months of 2017, the full ANAIS-112 set-up consisting of nine Alpha Spectra detectors in a 3x3 matrix configuration with a total mass of 112.5 kg has been commissioned at LSC. The latest results on the detectors performance and measured background will be presented and the excellent sensitivity prospects of the ANAIS 112 experiment for the confirmation of the DAMA/LIBRA signal will be discussed.

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