

Search for annual modulation with ANAIS112: two years results

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ANAIS (annual modulation with NaI Scintillators) is a dark matter direct detection experiment located at the Canfranc Underground Laboratory (LSC, Spain). Its main goal is to proof or refute in a model independent way the DAMA/LIBRA positive result: an annual modulation in the low-energy detection rate compatible with the expected signal induced by WIMPs in the galactic halo. This signal, observed during more than 20 years, is in strong tension with the negative results of other very sensitive experiments, but a direct comparison using the same target material (NaI(Tl)) is still lacking. ANAIS-112, consisting of 112.5 kg of NaI(Tl) scintillators, was installed at the LSC in August 2017. According to our prospects, it will achieve a 3σ sensitivity to the DAMA/LIBRA result within 5 years of data taking. In February 2019 we delivered the first results of ANAIS-112 corresponding to 1.5 years, being compatible with the absence of modulation and in some tension with DAMA/LIBRA. On this talk, after presenting the ANAIS-112 experimental set-up and performance, we will provide an update of the experimental results corresponding to 2 years of data.

Presenter: MARTINEZ, Maria (Universidad de Zaragoza)

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