

ANAIS - Exp-01-2008

The direct detection of the Dark Matter of the Universe is a very exciting challenge full of unknowns and uncertainties about its nature. ANAIS is an experiment developed by the Nuclear Physics and Astroparticles group of the University of Zaragoza which pursues this elusive dark matter detection by looking at the annual modulation of the expected interaction rates in a target of sodium iodide, material which produces small scintillations when a particle interacts and deposits some energy. This modulation is a distinctive feature stemming from the Earth revolution around the Sun which changes periodically the relative velocity of the incoming Dark Matter particles to the detector and, because of that, the energy deposited. DAMA-LIBRA experiment at Gran Sasso Underground Laboratory has reported the presence of modulation in its data with a high statistical significance; ANAIS could confirm it and help to understand the different systematics involved.

The infrastructure (“hut”) to install ANAIS has been built in Hall B and a prototype of the experiment has been installed in February-March 2011.



Image of the Prototype installed in the Hall B of the LSC