



Contribution ID: 44

Type: Talk

Annual Modulation Results from DAMA/LIBRA

Monday, August 30, 2021 9:30 AM (30 minutes)

The DAMA/LIBRA experiment (about 250 kg of highly radio-pure NaI(Tl)), is running deep underground at the Gran Sasso National Laboratory (LNGS) of the I.N.F.N.; its main aim is the investigation of Dark Matter (DM) particles in the Galactic halo by pursuing the model independent DM annual modulation signature. The results released so far have been obtained with the data of the first phase of measurements (DAMA/LIBRA-phase1) lasted for seven annual cycles with an exposure of 1.04 ton x yr and the data of the second phase (DAMA/LIBRA-phase2), when the energy threshold for the data analysis have been lowered down to 1 keV energy threshold. The first six annual cycles of the DAMA/LIBRA—phase2 data (cumulative exposure 1.13 ton × yr) have been released in 2018. DAMA/LIBRA data (and the former DAMA/NaI ones) gives for the presence of DM particles in the galactic halo with 12.9σ C.L. in the energy region 2-6 keV. No systematic or side reaction able to mimic the exploited DM signature has been found. The obtained DAMA model independent evidence is compatible with a wide set of scenarios regarding the nature of the DM candidate and related astrophysical, nuclear and particle Physics. In the talk, two new annual cycles of DAMA/LIBRA-phase2 data will be presented and the perspectives of the experiment will be addressed.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

DAMA, <http://people.roma2.infn.it/~dama/web/home.html>

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Yes

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Session Classification: B Heavy Ion Collisions and Critical Phenomena