

Status and perspectives of DAMA/LIBRA

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The DAMA/LIBRA set-up (about 250 kg highly radiopure NaI(Tl)) is currently in data taking at the Gran Sasso National Laboratory of the I.N.F.N. in its phase2. This experiment is dedicated to the investigation of Dark Matter (DM) particles in the galactic halo mainly by exploiting the model independent Dark Matter annual modulation signature. DAMA/LIBRA collected in its first phase data over 7 annual cycles corresponding to an exposure of $1.04 \text{ ton} \times \text{yr}$ (DAMA/LIBRA-phase1). The DAMA/LIBRA-phase1 and the former DAMA/NaI data (cumulative exposure $1.33 \text{ ton} \times \text{yr}$, corresponding to 14 annual cycles) give evidence at 9.3σ C.L. for the presence of Dark Matter particles in the galactic halo on the basis of the model independent DM annual modulation signature by using highly radio-pure NaI(Tl) target. In this talk some new recent analyses performed on the released data will be presented as well as perspectives of the present phase-2. Future perspectives of the experiment will also be addressed.

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