

Signals from dark Universe: DAMA/LIBRA at LNGS

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The investigation of the Dark Matter particles in the galactic halo is one of the main field of the underground physics. Motivations and general aspects of this investigation will be addressed. In particular, recent results obtained by the DAMA/LIBRA set-up – by exploiting the model independent annual modulation signature for Dark Matter (DM) particles – will be presented. DAMA/LIBRA is the main apparatus of the DAMA project in operation at the Gran Sasso National Laboratory of the INFN; its sensitive part is made of about 250 kg highly radiopure NaI(Tl) detectors [1]. The first DAMA/LIBRA results confirm the evidence for the presence of DM particles in the galactic halo as pointed out by the former DAMA/NaI set-up. Cumulatively the data support such evidence at 8.2σ C.L. and satisfy all the many peculiarities of the DM annual modulation signature [2]. Future perspectives will be briefly addressed.

References

- [1] R. Bernabei et al., Nucl. Instr. & Meth. A **592** (2008) 297.
 [2] R. Bernabei et al., Eur. Phys. J. C **56** (2008) 333 and reference therein.

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