

## **Underground Searches for Dark Matter**

**Carlo Rubbia**

CERN, Geneva, Switzerland

There is increasing cosmological evidence that a major fraction of the matter of the Universe is dark. Its amount exceeds substantially the prediction of ordinary matter as for instance derived by the Big Bang Nucleosynthesis (BBN). Therefore this excess of dark matter is most likely not hadronic.

Today more than 20 experiments are searching for such a possible signal underground. Particularly exciting are the searches for Weakly Interacting Massive Particles (WIMP) colliding with nuclei of ordinary matter. Small 10-100 keV elastic nuclear recoils could be detected, provided WIMPs exist and have a significant electro-weak coupling to ordinary matter. New, larger mass underground detectors are under construction, which should provide a sufficient sensitivity of detection of relic particles, in particular if the WIMP is the SUSY Neutralino, making this searches complementary to the searches for SUSY at the LHC, although also other physical alternatives may not be excluded. Such a large detector masses are made possible in particular by the realization of large cryogenic detectors ultimately of many tens of tons using high purity liquid Argon an/or Xenon. In particular the experiment WARP, now in advanced status of realization at the Laboratori Nazionali of Gran Sasso (LNGS) in Italy, will be discussed.