

MP 19: Plenarvortrag VII

Zeit: Donnerstag 11:45–12:30

Raum: 30.95: 001

Plenarvortrag MP 19.1 Do 11:45 30.95: 001
Recent Progress in Direct Searches for WIMP Dark Matter — •UWE OBERLACK — Institut für Physik, Johannes Gutenberg Universität Mainz

85% of the matter in the universe consists of non-baryonic cold Dark Matter. We observe its gravitational influence in large astrophysical systems ranging from galaxies to galaxy clusters, and on the scale of the universe as a whole. Dark Matter is the driving force for structure formation and dominated the evolution of the universe over most of its

history. Dark Matter, together with Dark Energy, is arguably our most solid evidence for physics beyond the Standard Model of particles and fields. Yet, we do not understand the nature of Dark Matter.

Weakly Interacting Massive Particles (WIMPs), a thermal relic of the hot Big Bang, make up a generic class of well-motivated Dark Matter candidates. Direct Dark Matter searches seek to detect WIMPs through their scattering with atomic nuclei. German research groups play an important role in this pursuit. This talk will review the current status and recent progress of the field, and look forward to the next steps of ton-scale detectors.