SIMONE
SANFILIPPO

LOOKING FOR DARK-MATTER: THE DARKSIDE OF THE UNIVERSE

Elementary particle physics offers an attractive solution to explain non-baryonic dark matter in the form of relic Weakly Interacting Massive Particles (WIMPs). In our galaxy, dark matter might constitute a halo, extending far beyond the visible disk, whose properties are inferred from the rotational kinematics of the visible matter. WIMPs could then be directly detected, as the Earth passes through such a halo, by looking at the nuclear recoils produced by WIMP interactions with ordinary matter. Up to now none of the running, neither the already concluded, experiments were able to detect dark matter. In this scenario, dual-phase noble liquid Time Projection Chambers (TPC) offer the most promising experimental technique to reach the sensitivity required for the possible detection of a weak signal coming from the interaction of dark matter with the ordinary one. In this contribution, the recent results from the DarkSide Collaboration and its mid/long term plan will be presented.

ESPRESSO SEMINARS

09 MAGGIO 2023 | ORE 15:00

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