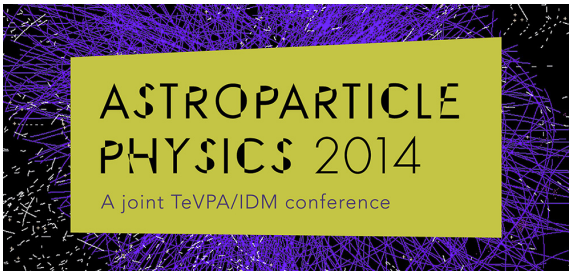

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Complementarity in direct dark matter searches

Wednesday, June 25, 2014 3:35 PM (20 minutes)

In the last decade experiments aiming at the direct detection of dark matter (DM) have increased significantly their sensitivity. In fact, ton-scale setups have been proposed, especially using Germanium and Xenon targets, which raises the hope of a detection in the near future. In light of this situation, it is necessary to study how well the DM parameters (mass, spin-dependent (SD) and spin-independent (SI) cross section off nucleons) can be reconstructed. In this talk we emphasize the need for the combination of different target materials in order to unambiguously reconstruct these parameters. By combining the results of such experiments, part of the degeneracy between these parameters can be removed, providing an excellent tool for DM identification. We also discuss the impact of uncertainties in the astrophysical and nuclear parameters (SD structure functions).

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