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Direct searches for Dark Matter

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Direct searches for Dark Matter in the form of WIMP-like particles continue to push toward the neutrino floor. Researchers in the Netherlands play a leading role in the XENON class of detectors. The XENON1T experiment has finished its data-taking phase, reaching an unprecedented sensitivity of $4 \cdot 10^{-}47$ cm^2 spin-independent WIMP-nucleon scattering cross section at 25˜GeV WIMP mass. The next generation XENONnT detector, which is expected to increase sensitivity by more than an order of magnitude, is being commissioned now, while the DARWIN detector, which will be sensitive down to the neutrino floor, is in the planning stage. This presentation reviews the status of the field of direct searches world-wide, with a focus on the experiments with significant Dutch contributions.

Summary

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Session Classification: Update talks