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【375】 ArDM - The only Dual-Phase Tonne-scale Liquid Argon Dark Matter Detector

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ArDM is the only dual-phase tonne-scale liquid Argon Dark Matter detector for the direct search of Weakly Interacting Massive Particles (WIMPs). The scintillation light and ionization charge produced by recoiling nuclei in WIMP-Argon collisions can be measured independently. The WIMP/neutron-induced nuclear recoils can be discriminated from the electron/photon background via the pulse shape of the scintillation light and the respective charge-to-light ratio. After successful data-taking ArDM stopped operating in 2020 and 3.5 billion dual-phase events are now subject of analysis. In this talk, the basic working and analysis principle will be explained. The detailed discrimination methods and an outlook to the future of experiments such as ArDM will be presented.

Author: STAUFFER, Alexander Martin (ETH Zurich (CH))

Presenter: STAUFFER, Alexander Martin (ETH Zurich (CH))

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