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【354】 DARWIN: a next-generation observatory for dark matter and neutrino physics

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The long-awaited detection of dark matter is dependent upon the design of sufficiently large, radio-pure and sensitive detectors. DARWIN is a next-generation dark matter observatory which will probe the accessible parameter space for WIMPs. It will comprise a dual-phase time projection chamber containing 40 t of liquid xenon. Ultra-low background levels are ensured by the selected low-emanation materials. Its low-energy threshold and high energy resolution will also allow for the exploration of other science channels, such as solar axions or neutrinoless double beta decay of ^{136}Xe . This talk will focus on the status of DARWIN, its broad science reach, and the main R&D topics being developed within the project.

Theoretical Work

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