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Dark Matter Searches: Status and Prospects

Tuesday, August 4, 2015 9:00 AM (45 minutes)

Figuring out the nature of dark matter is one of the greatest questions in physics today. While we see its effect in a wide variety of astrophysical and cosmological measurements, a description of its composition and properties has remained elusive. The hunt for dark matter is taking place in three different and complimentary fronts: looking for the end products of potential dark matter annihilation, decay or other interactions with the standard model in the cosmos (indirect detection); looking for evidence of dark matter production at colliders, and looking for potential interactions between the local dark matter and laboratory detectors (direct detection). In this talk I will concentrate on direct detection. Our ignorance of the properties of dark matter imply that direct detection efforts must span a huge parameter space of dark matter mass and cross section. I will overview the current efforts to find dark matter, from extremely light axions to massive particles thousands of times heavier than the proton.

Collaboration

– not specified –

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