

Hunting for Dark Matter

Monday 14 November 2022 13:00 (30 minutes)

The content of the universe is well known from astrophysical observations, from which we conclude that about 27% of the universe consists of cold dark matter. Current theories of what a particle physics candidate for dark matter might behave like, provide several avenues for detection of this missing component of our universe. I will discuss the experimental efforts to detect dark matter candidates, with the current best limits on the properties of potential particle physics candidates for dark matter being set by detectors using high purity crystals, or liquid noble gas time projection chambers (TPCs). XENONnT is the latest in a series of such liquid xenon TPCs, which presented its first result on dark matter interactions this summer. I will briefly discuss limits set on axions, axion like particle and dark photons dark matter candidates as well as the future prospects for XENONnT with regards to WIMP dark matter.

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Session Classification: Session I