

XENON1T AND BEYOND: THE SEARCH FOR THE HEAVY AND LIGHT DARK MATTER PARTICLES

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Large underground detectors made significant progresses in recent years to push the sensitivity for dark matter detection. In particular, the XENON1T experiment with the world's first ton-scale liquid xenon time projection chamber, located at Gran Sasso Underground Laboratory in Italy, is leading the frontier of heavy dark matter searches. Recently, the experiment also reported new constraints for light (sub-GeV) dark matter interactions with ordinary matter. In this talk, I will review these recent results and also present new efforts, including XENONnT, LBECA, DARWIN experiments that will continue to search for heavy and light dark matter particles with unprecedented sensitivity in the next decade.

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