

## Dark matter search in extended dwarf spheroidal galaxies with CTA

*Thursday, March 26, 2020 10:00 AM (40 minutes)*

The nature of dark matter (DM) is still a big mystery. Among the varieties of candidates, Weakly Interacting Massive Particle (WIMP) is one of the most promising ones. Gamma-ray observations of dwarf spheroidal galaxies (dSphs) by Fermi satellites put the strongest constraints at  $m_{\text{DM}} \sim < \text{a few hundreds of GeV}$ . In the near future, Cherenkov Telescope Array (CTA) starts its operations and expect to probe WIMP of  $m_{\text{DM}} > \sim \mathcal{O}(1)\text{TeV}$ . Different from previous experiments, spatial distributions of DM in dSphs are resolved with CTA. In this talk, I explain the procedure to extract DM signals in gamma-ray observations and how the spatial extension of the dSph affects our accessibility to DM in future experiments.

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**Session Classification:** Invited talks