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## TeV dark matter search at the Galactic center with the CTA

*Wednesday, 13 November 2019 10:30 (30 minutes)*

High-energy gamma rays are among the most promising tools to constrain or reveal the nature of dark matter (DM), in particular the Weakly Interacting Massive Particles models. The Cherenkov Telescope Array (CTA) is well into its pre-construction phase and will soon probe the high-energy gamma-ray sky in the 20 GeV - 300 TeV energy range. Thanks to its improved energy and angular resolutions as well as significantly larger effective area, the CTA will probe a parameter space of heavier dark matter (above 100 GeV), with unprecedented sensitivity, reaching the DM thermal annihilation rate at the TeV regime.

This talk will summarise the planned DM search strategies with CTA, focusing on the signal of DM in the centre of our Galaxy. As observed with the Fermi LAT at lower energies, this region exhibits complex large-scale gamma-ray emission and the CTA is expected to be the first ground based observatory able to detect it. In this talk we report on the collaboration effort to study the impact of extended astrophysical backgrounds on DM search, based on the astrophysical emission observed with the Fermi LAT at lower energies and to suggest the promising data analysis and observational strategies for the upcoming CTA data.

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