

# Prospect for indirect Dark Matter searches with the Cherenkov Telescope Array

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The nature of dark matter (DM) is an open issue of modern physics. Cosmological considerations and observational evidences indicate a behaviour beyond the Standard Model for optimal dark matter particle candidates. The non-baryonic dark matter is compatible with a gas of cold and weakly interacting massive particles (WIMPs) expected to have a mass in the range between  $O(10)\text{GeV}$  and  $O(100)\text{TeV}$ . Indirect DM searches with imaging atmospheric Cherenkov telescopes (IACTs) may play a crucial role in constraining the nature of the DM particle(s) through the study of their annihilation in very high energy (VHE) gamma rays from promising targets, such as the Galactic Center (GC) and the dwarf spheroidal galaxies (dSphs) of the Milky Way. In this contribution, we focus on indirect DM searches prospects for the next-generation gamma-ray Cherenkov Telescope Array (CTA) observatory.

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