

On the verge of the next generation TeV dark matter searches

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Abstract content

Using tens of telescopes and cutting-edge design, the Cherenkov Telescope Array (CTA) project will probe high and very high-energy gamma rays with two independent installations in both hemispheres. With 5-20 times more sensitivity, depending on the energy, than current instruments such as MAGIC, HESS and VERITAS, as well as improved energy and angular resolutions, CTA will be an outstanding instrument. For dark matter searches, the CTA performance will mark the start of a new epoch, with an instrument sensitive to the dark matter thermal annihilation rate at the TeV regime. However, the definition of the best strategy in terms of target choice, exposure and priority, is still a matter of debate. Furthermore, it is important to discuss what external inputs CTA may need to optimise the program. This report will summarise expectations and plans for CTA dark matter searches in a few years from now.

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