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Search for dark matter signals with 10-year observations by H.E.S.S. towards the Galactic Centre

The presence of dark matter in the Universe is nowadays widely supported by a large body of astronomical and cosmological observations.

The central region of the Milky Way is expected to harbor a large amount of dark matter.

Very-high-energy (>100 GeV) gamma-ray observations with the H.E.S.S. array of Imaging Atmospheric Cherenkov Telescopes are powerful probes to look for self-annihilations of dark matter particles in the Galactic Centre.

A new search for a dark matter signal has been carried out on the full H.E.S.S.-I dataset of 2004-2014 observations with a 2D-binned likelihood method using spectral and spatial properties of signal and background.

Updated constraints are derived on the velocity-weighted annihilation cross section. Higher statistics from the 10-years Galactic Center dataset of H.E.S.S. I together with a novel analysis technique allow to significantly improve the sensitivity.

New results will be presented.

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