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Indirect dark matter search with H.E.S.S.

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The annihilations of WIMPs produce high energy gamma-rays in the final state. These high energy gamma-rays may be detected by IACTs such as the H.E.S.S. array of Imaging Atmospheric Cherenkov telescopes. Besides the popular targets such as the Galactic Center or the galaxy cluster as M87, dwarf Spheroidal galaxies are privileged targets for searching a Dark Matter annihilation signal. H.E.S.S. observations on the Sagittarius dwarf galaxy are presented. The modelling of the Dark Matter halo profile of Sagittarius dwarf is discussed. Constraints on the velocity-weighted cross section of Dark Matter particles are derived in the framework of Supersymmetric and Kaluza-Klein models. The future searches with the incoming phase 2 of H.E.S.S. will be briefly discussed.

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