

The impact of axisymmetric halos on the upper limits on the dark matter annihilation cross section in dSphs

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Dwarf spheroidals (dSphs) are low-luminosity satellite galaxies of the Milky Way highly dominated by dark matter. Therefore, they are prime targets to search for signals from dark matter annihilation using gamma-ray observations. Recent stellar kinematical data show that the dark matter density profiles are better described by axisymmetric profiles than by the traditionally used spherically symmetric NFW profile. We performed an analysis of 7 classical dSphs, using PASS8 data of Fermi-LAT, adopting both the NFW profile and observationally motivated axisymmetric density profiles, and derived upper limits on the dark matter annihilation cross section. I will discuss the results for the different dSphs and show that the impact of axisymmetric profiles is very important. In some cases, the upper limits differ by a factor of 2-6.

Summary

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