



Contribution ID: 64

Type: **Invited talk**

## **Varieties of DM density profile in Galactic dwarf spheroidal galaxies and the gamma-ray search of the annihilation signature**

*Tuesday, 12 November 2019 14:30 (30 minutes)*

Dwarf spheroidal galaxies (dSph) are good targets to search for dark matter annihilation signals through gamma-ray observations. Currently, the most strong constraints on the cross-section at  $m_{\text{DM}} < \sim 100 \text{ GeV}$  are obtained by observing them with Fermi-LAT. The dark matter distribution in dSphs is difficult to model and the errors in the current constraints are dominated by those in the J-factor. In this talk, I explain the general procedure to determine the DM distribution in dSphs and the variation of the resultant models. I also discuss the effect of the DM spatial distribution on the future gamma-ray search of WIMP annihilation signals using ground-based telescopes.

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**Session Classification:** DM Astrophysics