

# Constraining dark matter signal from a combined analysis of Milky Way satellites with the Fermi-LAT

*Thursday, 21 June 2012 15:15 (25 minutes)*

Dwarf spheroidal galaxies are considered very promising targets for dark matter searches in the gamma-ray band due to their large mass-to-light ratio and low astrophysical background. The gamma-ray signal is expected to be very faint, but a combined analysis of a set of dwarf galaxies improves the Fermi-LAT sensitivity to gamma-ray sources and yields enhanced constraints on the dark matter parameter space. From a combined analysis of Fermi-LAT data for 10 dwarf spheroidal galaxies, we derive robust constraints on the dark matter annihilation cross section for multiple channels, while accounting for statistical uncertainties in the astrophysical properties.

**Primary author:** Ms LLENA GARDE, Maja (Oskar Klein Centre, Stockholm University)

**Co-authors:** Prof. CONRAD, Jan (Oskar Klein Centre, Stockholm University); Dr COHEN-TANUGI, Johann (Université Montpellier 2)

**Presenter:** Ms LLENA GARDE, Maja (Oskar Klein Centre, Stockholm University)

**Session Classification:** The gamma-ray sky