ID de Contribution: **49** Type: **Contributed talk**

Constraining Galactic dark matter with gamma-ray pixel counts statistics

mardi 26 juin 2018 16:30 (20 minutes)

The investigation of the composition of the extra-galactic gamma-ray background (EGB) is a powerful tool to search for dark matter signals in the gamma-ray sky. In the last few years, statistical analysis methods have been demonstrated to outperfom classic detection methods in decomposing the EGB. In particular, the 1-point photon counts statistics (1pPDF) permits to resolve the population of extra-galactic point sources and to decompose the diffuse components into Galactic foreground and isotropic background emissions.
For the first time, we extend this analysis to include a potential contribution from dark matter annihilating in the Galactic dark matter halo. In this contribution I will discuss the sensitivity reach of 1pPDF analysis for the dark matter thermally-averaged self-annihilation cross section when applied to eight years of Fermi-LAT data between 1 and 10 GeV.

Auteurs principaux: MANCONI, Silvia (University of Turin); DONATO, Fiorenza (Dept. Theoretical Physics)

Orateur: MANCONI, Silvia (University of Turin)

Classification de Session: Parallel II

Classification de thématique: Indirect detection