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## Spatial signature of Dark Matter in the Galaxy

*Tuesday, 12 April 2016 14:00 (20 minutes)*

A generic prediction of simulations of structures formation is the presence in our Galaxy of a population of dark matter subhaloes, hosted by the main dark matter halo. The annihilation of dark matter particles in those objects may lead to the production of gamma rays, inducing small scale fluctuations in the gamma-ray diffuse emission. In order to understand the origin and the composition of the anisotropy signal measured by the Fermi-LAT, it is crucial to estimate what can be the contribution from the dark matter distribution in the Galaxy. I will present predictions for the gamma-ray anisotropy from dark matter annihilation based on the most recent hydrodynamic simulations of galaxy formation. I will discuss if and how baryons affect the predicted anisotropy signal and what are the main uncertainties at stake. Finally, I will show what are other possible signatures of dark matter subhaloes and what is the sensitivity of current telescopes.

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