

IGRB tomography and Dark Matter Searches via cross-correlations with Large Scale Structures

Monday, 12 September 2016 18:30 (15 minutes)

will be based on

A. Cuoco, J. Q. Xia, M. Regis, E. Branchini, N. Fornengo and M. Viel,
%“Dark Matter Searches in the Gamma-ray Extragalactic Background via Cross-correlations With Galaxy Catalogs,”

Astrophys. J. Suppl. **221** (2015) no.2, 29

doi:10.1088/0067-0049/221/2/29

[arXiv:1506.01030 [astro-ph.HE]]

M. Regis, J. Q. Xia, A. Cuoco, E. Branchini, N. Fornengo and M. Viel,

%“Particle dark matter searches outside the Local Group,”

Phys. Rev. Lett. **114** (2015) no.24, 241301

doi:10.1103/PhysRevLett.114.241301

[arXiv:1503.05922 [astro-ph.CO]].

J. Q. Xia, A. Cuoco, E. Branchini and M. Viel,

%“Tomography of the Fermi-lat γ -ray Diffuse Extragalactic Signal via Cross Correlations With Galaxy Catalogs,”

Astrophys. J. Suppl. **217** (2015) no.1, 15

doi:10.1088/0067-0049/217/1/15

[arXiv:1503.05918 [astro-ph.CO]].

Summary

I will discuss the recent observations of correlation of the Extra-Galactic Gamma-ray Background with catalogues of galaxies as tracers of the Large Scale Structures of the Universe. These observations offer a new way to investigate the diffuse extra-galactic gamma-rays providing access to the redshift distribution of this emission. Furthermore, this allows to derive new stringent constraints on the presence of a possible dark matter annihilation signal.

Primary author: CUOCO, Alessandro (RWTH Aachen TTK)

Presenter: CUOCO, Alessandro (RWTH Aachen TTK)

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