

Cosmic Rays from Direct Measurements and from Multifrequency Observations of Interstellar Emissions

Elena Orlando¹

*Kavli Institute for Particle Astrophysics and Cosmology and Hansen Experimental Physics Laboratory,
Stanford University, CA (USA)*

E-mail: orlandele@gmail.com

Interactions of cosmic rays with the interstellar medium and Galactic magnetic fields produce diffuse emissions from radio and microwaves, to gamma-ray energies. Observations of these diffuse emissions are an invaluable tool for understanding densities and spectra of cosmic rays in different places of our Galaxy.

We present local interstellar cosmic-ray spectra, independent of solar modulation, and propagation properties for the first time derived by combining the latest cosmic-ray direct measurements with multi-frequency data of the interstellar emissions observed with radio surveys, Planck, and Fermi Large Area Telescope.

This paper discusses the results based on the work published in *Orlando (2018) MNRAS 475, 2724*. Details are reported in that paper.

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¹Speaker

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