

# Seminario

## Departamento de Física Teórica

### *“Phenomenology of DSR-relativistic in-vacuo dispersion in FLRW spacetime”*

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Abstract:

Studies of in-vacuo dispersion are the most active area of quantum-gravity phenomenology. The way in which in-vacuo dispersion produces redshift-dependent corrections to the time of flight of astrophysics particles depends on the model-dependent interplay between Planck-scale effects and spacetime curvature/expansion, and we here derive the most general formula for the leading order redshift-dependent correction to the time of flight for the scenario in which relativistic symmetries are deformed at the Planck scale (DSR) for the constant-curvature case. We find that, contrary to the broken symmetries scenario (LIV), where in principle any arbitrary form of redshift dependence could be allowed, for the DSR scenario only linear combinations of three possible forms of redshift dependence are allowed. We also derive a generalization of our results to the FRW case, and discuss some specific combinations of the three forms of redshift dependence whose investigation might deserve priority from the quantum-gravity perspective.

Fecha: jueves, 23 de mayo de 2024

Hora: 12:10 horas

Lugar: Seminario de Física Teórica

