

## Testing modified dispersion relations with relativistic gas dynamics

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Far from the quantum regime, quantum gravity effects may be imminent in the form of modifications of the dynamics of classical systems. Such effects can be modeled by effective theories. One common approach of this type is to describe the influence of quantum gravity effects on the motion of massive or massless test particles by modified dispersion relations. Applying these relations to a distribution of test particles, one obtains the kinetic formulation of a relativistic gas. A modification of the dispersion relation thus becomes manifest as a modification of the gas dynamics. In my presentation I will show this for a simple example and explain how the modified gas dynamics can be used as an observational discriminator for effective quantum gravity models.

### Working Group

WG5 - Connection between low-energy and high-energy quantum gravity

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