

Eikonal exponentiation and gravitational waves

Tuesday, 14 June 2022 10:15 (35 minutes)

In this talk I will illustrate recent progress on the connection between scattering amplitudes and the classical emission of gravitational waves in black-hole scattering events. Focusing on the eikonal exponentiation, which provides a strategy to extract the classical limit, I will describe how amplitudes determine the classical deflection in the black-hole trajectories and the spectra of emitted energy and angular momentum. In particular, I will illustrate how soft theorems can be exploited to calculate efficiently the zero-frequency limit of such spectra, and the radiation backreaction on the black-hole motion.

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