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Scattering Amplitudes: Spinning Black Holes vs Soft Theorems

Thursday, 26 September 2019 16:10 (20 minutes)

Motivated by the advent of LIGO and Virgo measurements, it has been observed that scattering amplitudes can be used to derive perturbative observables appearing in the collision of two black holes. In this talk we will cover recent progress in obtaining such quantities for the phenomenologically relevant setup of spinning black holes, focusing on radiation and the spin multipole expansion. These can be constructed via an exponentiated version of the Soft Theorem appearing in the classical limit of minimally coupled amplitudes. Time permitting, we will elaborate on the so-called classical double copy as an output of this construction.

Primary author: Mr GUEVARA, Alfredo (Perimeter)

Presenter: Mr GUEVARA, Alfredo (Perimeter)

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