

Gravitational Dressing Operators and Radiative Observables from Binary Systems

Thursday, 26 June 2025 16:00 (30 minutes)

In recent years, classical limits of scattering amplitudes have emerged as a powerful tool for deriving state-of-the-art results for gravitational wave observables from interacting binary compact objects. In this talk, I will explore gravitational dressing operators from the worldline formalism and discuss their significance for late time radiative observables. We will first consider how fluctuations around the asymptotic trajectories of the scattered compact objects can be used to derive a gravitational dressing operator in a multiple soft graviton expansion. We will then use this operator, considered up to collinear double soft graviton terms, to find late time results for the waveform, emitted momentum and angular momentum. I will conclude with results from ongoing work that relates the gravitational dressing exponent up to double soft graviton order, and the double soft graviton factor for scattering amplitudes.

Please choose your topic

Gravity & Particle Physics

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