

Loop-the-Loop-2: Feynman calculus and its applications to gravity and particle physics

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High precision scattering waveforms from the Self Force approach

Tuesday 11 November 2025 15:40 (30 minutes)

In this talk I will review how to get analytical information on scattering waveforms by employing the Self Force approach, which contains resummed contributions from both the weak field approximation, or post-Minkowskian (PM), and the low velocity limit, i.e. post-Newtonian (PN) approximation. By leveraging this feature it would be possible to get analytical information at very high order in both PM and PN, which will allow us to discuss systematically the functional forms of the time domain waveform. Some final comments on the frequency domain waveform will also be provided, together with some prospects for the future.

Presenter: USSEGLIO, Davide

Session Classification: Scattering Amplitudes in Gravity