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**Classical Gravitation from Quantum Scattering Amplitudes: high orders in the post-Minkowskian approximation for binary systems<sup>1</sup>**

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While the flat space two-body problem is integrable, the generally-relativistic one is not. It is however a problem of great theoretical and practical interest in light of the ongoing observations of gravitational waves by the LIGO/Virgo observatories. In the appropriate classical limit, quantum scattering amplitude-based techniques can yield the classical interaction of massive bodies to all orders in their velocities and to fixed order in the expansion in Newton's constant, that is a fixed order in the post-Minkowskian (relativistic weak-field) expansion. In this talk we review an amplitudes-based framework for such calculations and the derivation of the long-sought third order in the post-Minkowskian expansion for the conservative Hamiltonian of a compact binary system with spinless constituents. We also describe the scattering angle at this order, a first comparison with numerical GR and the extension of this formalism to binaries with spinning constituents.

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