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【464】 Waveforms in the Post-Minkowskian Expansion

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Current and future gravitational wave detectors provide the possibility to detect gravitational waves emitted by hyperbolic encounters. Such scattering binaries are well captured by the post-Minkowskian (PM) approximation, which has been computed to high orders by employing scattering amplitude methods. In this talk, I will review the relation between scattering amplitudes and the gravitational waveform and present our computation of the next-to-leading order PM waveform, including the spin-orbit coupling. Special emphasis is put on the implementation of causality and the treatment of divergences in the amplitude.

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