Cosmological Frontiers in Fundamental Physics Triangular Conference : APC - Perimeter - Solvay 2021



ID de Contribution: 4 Type: Non spécifié

From scattering amplitudes to gravitational waves observables

mardi 25 mai 2021 16:20 (40 minutes)

The observation of gravitational waves by the LIGO/Virgo collaborations and the promise of future experiments underscores the need for increasingly more precise theoretical predictions. It has recently been demonstrated that scattering-amplitude techniques, originally developed for QCD calculations, can push the state of the art and provide results that are difficult to obtain by more standard means.

In this talk we will review aspects of scattering amplitudes that are relevant for gravitational wave physics and summarize the results for effective two-body Hamiltonians and for gravitational wave observables obtained through these methods.

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Classification de Session: First Session, Tuesday