

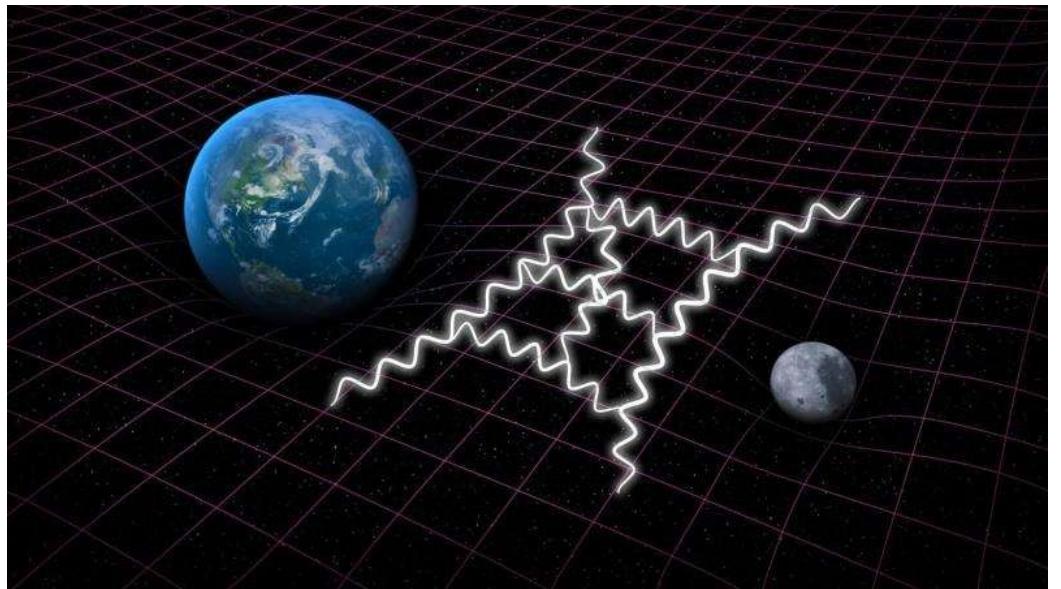


Scattering Amplitudes from LHC to LIGO and Beyond.

Tuesday, 23 June, 2020

Webcast 16:00 h

Lance Dixon (SLAC)



LIGO, VIRGO, and other gravitational wave interferometers are ushering in a new era of astrophysics, where the messenger is the graviton. The LHC provides the highest energy particle collisions available in the laboratory, searching for new particles and new interactions. These two arenas seem totally unrelated: One is governed by classical gravity, the other by non-Abelian gauge theories such as quantum chromodynamics. However, these two theories are secretly related by a “double copy”: graviton scattering amplitudes are essentially the square of gluon amplitudes. Along with modern scattering amplitude methods, which have led to more precise predictions for LHC processes, the double copy has enabled the study of ultraviolet divergences in quantum field (super)gravity to high loop orders. The same tools are now being applied to classical gravity, in regimes relevant for improving predictions for gravitational waveforms for inspiralling blackholes and neutron stars.

Please note: This is a VIDEO COLLOQUIUM!

Connection details at: <https://desy.zoom.us/j/99616528733>



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