



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

New Recursion relations for scattering amplitudes with massive particles
(Zoom Seminar)

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Date: April 26, 2021

Time: 11.00 am IST

Zoom link shall be shared separately



We use the recently developed massive spinor-helicity formalism of Arkani-Hamed et al. to study a new class of recursion relations for tree-level amplitudes in gauge theories. These relations are based on a combined complex deformation of massless as well as massive external momenta. We use these relations to study tree-level amplitudes in scalar QCD as well as amplitudes involving massive vector bosons in the Higgsed phase of Yang-Mills theory. We prove the validity of our proposal by showing that in the limit of infinite momenta of two of the external particles, the amplitude once again is controlled by an enhanced Spin-Lorentz symmetry paralleling the proof of BCFW shift for massless gauge theories.

Based on: arXiv:2010.14139

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