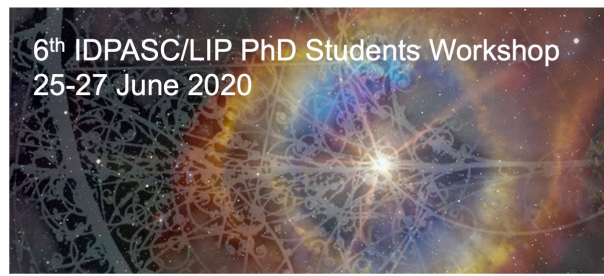6th IDPASC/LIP PhD Students Workshop
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Gluon self-interaction vertices

Thursday, 25 June 2020 17:15 (40 minutes)

Observables extracted from lattice computations are usually described using continuum tensors. However, continuum symmetries only partially survive the discretization of spacetime. This leads to the need to consider appropriate tensor bases to characterize lattice correlation functions. We investigate the gluon propagator for pure Yang-Mills formulation using lattice tensors..

The analysis of the infrared region for the three-gluon vertex is also considered, namely the form factors associated with its one particle irreducible Green function. The main objective of this analysis is to improve the precision on the zero-crossing, which is traced back to the masslessness of the ghost in the Landau gauge.

A preliminar result of the computation of the four-gluon vertex is also shown for a simple momentum configuration which simplifies the tensor description of this correlation function.

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