Higher-Derivative Scalars Meet Gluons

Friday 15 December 2023 10:45 (30 minutes)

The covariant color-kinematics duality was proposed by Cheung and Mangan as a relation between the gauged bi-adjoint scalar theory and Yang-Mills theory. It holds at the level of the equations of motion and directly leads to a simple map between tree-level scattering amplitudes. I will show that this framework naturally incorporates higher-derivative
corrections. Moreover, it implies that the amplitudes at higher orders in the effective field theory expansion are efficiently encoded in the lowest order Yang-Mills amplitudes.

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