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## The three loop four parton scattering in QCD

*Saturday 14 May 2022 09:00 (20 minutes)*

In this talk, I discuss the calculation of all helicity amplitudes for four-parton scattering in three-loop massless QCD. Our results allow us, for the first time, to verify completely the structure of quadrupole IR divergences at this perturbative order in QCD. From the high-energy limit of the amplitudes, we have extracted the three-loop gluon Regge trajectory in full QCD. Our findings provide a highly non-trivial test of the universality of high-energy factorization in QCD.

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