

Catani's collinear factorisation to all perturbative orders in QCD

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We consider the most general factorisation properties of scattering amplitudes in perturbative QCD in both collinear and collinear-soft limits. While scattering amplitudes obey strict collinear factorisation (SCF) in the time-like collinear region to all perturbative orders, SCF is known to break in the so-called space-like region. We generalise previously known results of SCF breaking to more than one collinear direction. We also extend our analysis to the simultaneous collinear-soft factorisation.

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