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## Non-Abelian Corrections for Radiation in QCD

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We compute the emission spectrum of soft and collinear gluon bremsstrahlung radiation associated with the hard scattering of a quark by a gluon in QCD for one, two, and three gluons. In QED, multiple photon emissions are independent, which is to say they are emitted according to a Poisson distribution. In QCD, the non-Abelian nature of the theory leads to interactions between the emitted gluons. Hence the emissions are not independent, and there are therefore corrections to the Poisson distribution of these radiated particles. We present the first explicit calculation of these corrections, which exploits maximal helicity violation techniques, and its relevance for heavy ion collision phenomenology.

**Apply to be considered for a student & award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

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