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Integrated antenna dipoles in colour space at NNLO

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Summary

The antenna subtraction method for higher order calculations has traditionally been implemented using squared colour ordered amplitudes. Once integrated, the subtraction terms can be conveniently organized into sums of "integrated antenna dipoles", the poles of which are related to the well known IR insertion operators of Catani. In this talk I will explain how once a small set of these integrated antenna dipoles are known, the IR structure of the virtual (at NLO) and double virtual (at NNLO) subtraction terms can be generated for arbitrary processes. Working in abstract colour space, this work extends the construction of virtual subtraction terms in the antenna method to sub-leading colour and arbitrary legs in an algorithmic fashion.

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