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Towards an accurate and efficient event generation for multi-jet processes

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We propose an event generation for LHC multi-jet processes (up to 10 external particles) in a two-step procedure based on the colour expansion of the tree-level matrix-element. In this way, in the first step the phase-space integration is performed on the leading-colour accurate expansion of the amplitudes. At this step, we compare several choices of the integration variables. In a second step, the leading-colour accurate events are reweighted to achieve next-to-leading colour accurate and full-colour accurate events. We investigate the efficiency of the various integration variable choices and assess the efficiency of the full picture of generating tree-level events of high multiplicities.

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