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A Forward Branching Phase Space Generator for Hadron Colliders

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In this talk I will present a projective phase space generator appropriate for hadron collider geometry. The generator integrates over bremsstrahlung events which project back to a single, fixed Born event. The projection is dictated by the experimental jet algorithm allowing for the forward branching phase space generator to integrate out the jet masses and initial state radiation. When integrating over the virtual and bremsstrahlung amplitudes this results in a single K-factor, assigning an event probability to each Born event. This K-factor is calculable as a perturbative expansion in the strong coupling constant. One can build observables from the Born kinematics, giving identical results to traditional observables as long as the observable does not depend on the infrared sensitive jet mass or initial state radiation. See article on Inspire

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