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Small radius jets to all orders

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As hadron collider physics continues to push the boundaries of precision, it becomes increasingly important to have methods for predicting properties of jets across a broad range of jet radius values R, and in particular for small R.

In this presentation we will start with a brief review of jet physics at hadron colliders, and introduce a method to resum all leading logarithmic terms, $\alpha_s \ln R$, in the limit of small R, for a wide variety of observables. These include the inclusive jet spectrum, jet vetoes for Higgs physics and jet substructure tools. We will examine and comment on the underlying order-by-order convergence of the perturbative series for different R values.

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