## **Resummation, Evolution, Factorization 2022**



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## Threshold factorization of the quark-gluon channel in the DY process at NLP

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Over the years, Soft Collinear Effective Theory (SCET) has been successfully applied to many important observables in collider physics improving the accuracy of fixed-order predictions via the leading power (LP) resummation of large logarithmic contributions which appear in certain regions of phase space. Recently, much interest has gathered in subleading power corrections amongst the theoretical community. In this talk, I will discuss the framework for the threshold resummation of the quark-gluon channel of the Drell-Yan process at next-to-leading power (NLP) using SCET. I will prove the general factorisation formula and describe new objects that emerge beyond LP. That is, the NLP collinear functions and generalized soft functions. I will also show the calculation of the soft functions at the two-loop order, and show that the bare factorization theorem holds up to NNLO.

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