Contribution ID: **23** Type: **not specified**

Low-energy theory of jet processes and PDF factorization

Tuesday 14 October 2025 16:10 (25 minutes)

Factorization theorems for non-global observables at hadron colliders can be used to resum super-leading logarithms (SLLs). These SLLs are closely related to collinear factorization breaking and are driven by a double-logarithmic evolution equation in an effective field theory. The compatibility of this double-logarithmic evolution with single-logarithmic PDF evolution at low scales implies stringent consistency conditions on the low-energy matrix element of this effective theory. By analyzing these contributions at the three-loop order, I will show consistency with PDF factorization. The crucial element for factorization is a genuine Glauber contribution which first arises at this order.

Authors: SCHWIENBACHER, Dominik (University of Bern); NEUBERT, Matthias (Johannes Gutenberg University Mainz); HAGER, Patrick (Johannes Gutenberg Universität Mainz); JASKIEWICZ, Sebastian (University of Bern); BECHER, Thomas (University of Bern)

Presenter: SCHWIENBACHER, Dominik (University of Bern)

Session Classification: Tuesday