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## High-energy signals from heavy-flavor physics

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Heavy-flavored emissions have been always considered as an excellent channel to test properties of Quantum chromodynamics (QCD) at present and future colliders. Among different regimes, in which heavy-flavor production can be investigated, we focus our attention on the semi-hard one, where  $s \gg Q^2 \gg \Lambda_{QCD}$  ( $s$  is the squared center-of-mass energy,  $\{Q^2\}$  a (set of) hard scale(s) characteristic of the process and  $\Lambda_{QCD}$  the QCD mass scale). Here, we build predictions in a hybrid collinear/high-energy factorization, in which the standard collinear description is supplemented by the Balitsky-Fadin-Kuraev-Lipatov resummation of large energy logarithms. The definition and the study of observables sensitive to high-energy dynamics in the context of heavy-flavor physics has the double advantage of (i) allowing to get a stabilization of the BFKL series under higher order corrections and (ii) providing us with an auxiliary tool to investigate heavy-flavor production in wider kinematical ranges.

Moreover, the heavy flavor production represents a fertile ground to study the interplay between different kind of resummation.

Hence, we propose a scientific program on heavy flavor physics at high energy that starts from the production of open states, with the ultimate goal of considering bound states (such as heavy-light mesons and quarkonia). In this talk, after a brief overview on the theoretical set-up of high-energy factorization in the case of heavy-quark production, we will present some recent phenomenological analyses involving heavy-quark open states as well as bound states.

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**Session Classification:** Recent theoretical results on QCD and saturation

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