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Type: **Parallel Talk**

## Top-pair events with B-hadrons at the LHC

*Friday, 8 July 2022 14:45 (15 minutes)*

In this talk, we will present NNLO QCD predictions for several differential distributions of B-hadrons in top-pair events at the LHC. In an extension of previous work, the decay of the produced B-hadron to a muon or a  $J/\psi$  meson has been incorporated, allowing us to make predictions for distributions involving those decay products as well. Additionally, a new set of B-hadron fragmentation functions has been obtained, which features reduced uncertainties and can be used consistently within the perturbative fragmentation function formalism employed in our calculation. Among other things, our predictions allow for a precise determination of the top-quark mass. The results also offer positive prospects for extracting heavy-flavour fragmentation functions from LHC data.

### In-person participation

Yes

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