Theory challenges for LHC physics



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Pair correlations in particle and jet production at the LHC in the parton Reggeization approach

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We study inclusive azimuthal decorrelations in jet, b-jet and D-meson pair production in proton-proton collisions at the CERN LHC invoking the hypothesis of parton Reggeization in t-channel exchanges at high energies. Using a high-energy factorization scheme with the Kimber-Martin-Ryskin unintegrated parton distribution functions and the Fadin-Lipatov effective vertices we obtain good agreement of our calculations with recent measurements by the ATLAS and CMS Collaborations at the CERN LHC.

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