

# Jets in multiparticle production in and beyond geometry of proton-proton collisions at the LHC

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Experimental findings of CMS on properties of jets and underlying events at high multiplicities in proton-proton interactions at 7 TeV are interpreted as an indication of increasing role of central collisions with small impact parameters. We find an indication that the rates of different hard processes observed by CMS and ALICE universally depend on underlying event charged-particles multiplicity until it becomes four times more than average. It is shown that the increase of the overlap area of colliding protons is not sufficient for explanation of the rate of jet production in events with charged-particle multiplicity three times higher than average and some new mechanisms are necessary like interaction of protons in rare configurations of higher than average gluon density. Such mechanisms are not properly accounted in the present Monte Carlo event generators.

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