

Experimental study of quark and gluon jets in proton-proton and heavy-ion collisions.

We propose a set of jet-energy dependent cuts to be used to distinguish between quark and gluon jets experimentally based on a Monte-Carlo study of their properties. Using these cuts we are able to achieve up to 80% purity of our selection. Further, we introduce the possibility to calibrate these cuts via gamma-jet and multi-jet events, which represent clean production channels for quark and gluon jets, respectively. The calibration can happen on real data and thus, reduces the dependence of the method performance on Monte-Carlo model predictions.

We present the π , K and p spectra for quark and gluon jets in generated proton-proton and Pb-Pb collisions at STAR and LHC energies.

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Track Classification: Jets