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Jet flavour discrimination and measurement of quark and gluon jet fractions

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A method which can distinguish quark and gluon jets in mixed sample was described in report. The tagger is a likelihood discriminant constructed out of three variables: particle multiplicity, minor axis of the jets profile ellipse and fragmentation function. This quark-gluon likelihood (QGL) discriminator is used in analyses carried out in the CMS experiment. Using QGL discriminator, a method for measuring the fraction of gluon jets in mixed sample was developed. Mathematical aspects of QGL discriminator and method to measure gluon fraction are described.

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