# Identification of beauty and charm quark jets at LHCb

The LHCb collaboration[†]

**Abstract**

Identification of jets originating from beauty and charm quarks is important for measuring Standard Model processes and for searching for new physics. The performance of algorithms developed to select $b$- and $c$-quark jets is measured using data recorded by LHCb from proton-proton collisions at $\sqrt{s} = 7\,\text{TeV}$ in 2011 and at $\sqrt{s} = 8\,\text{TeV}$ in 2012. The efficiency for identifying a $b(c)$ jet is about $65\%(25\%)$ with a probability for misidentifying a light-parton jet of $0.3\%$ for jets with transverse momentum $p_\text{T} > 20\,\text{GeV}$ and pseudorapidity $2.2 < \eta < 4.2$. The dependence of the performance on the $p_\text{T}$ and $\eta$ of the jet is also measured.