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Vector-like quark production at the LHC, beyond the Narrow Width Approximation

This paper explores effects of both finite width and interference (with background) in the production and decay of extra heavy quarks at the Large Hadron Collider (LHC). This dynamics is normally ignored in the standard experimental searcher and we assess herein the regions of validity of current approaches. Further, we discuss the configuration of masses, widths and couplings where the latter breaks down.

Experimental Collaboration

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