

Non-Standard Decays of Vector-Like Quarks

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With strong constraints on the mass of vector-like quarks (VLQ) from the top partner (T) decay $T \rightarrow SM$, it is necessary to consider non-standard decays of such partners. This talk considers models where the VLQ decays to a BSM (pseudo)scalar (S) and a top-quark. The scalar is assumed to be fermiophobic, and dominantly decays into two SM bosons. With dedicated analyses, we realistically quantify the sensitivity of the LHC to both the T and S masses, assuming both current and foreseen luminosities.

Primary author: MATHISEN, Thomas (Uppsala University (SE))

Presenter: MATHISEN, Thomas (Uppsala University (SE))

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