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Search for Standard Model Production of Four Top Quarks

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A search is presented for standard model (SM) production of four top quarks in pp collisions at the LHC. Using Run-1 data corresponding to an integrated luminosity of 19 fb^{-1} , a combination of kinematic reconstruction and multivariate techniques is used to distinguish between the small signal ($\sigma_{t\bar{t}t\bar{t}}^{SM} \sim 1 \text{ fb}$) and backgrounds in the lepton + jets channel. The data are consistent with expectations for SM background and signal, and an upper limit of 32 fb is set at a 95% confidence level on $\sigma_{t\bar{t}t\bar{t}}^{SM}$, where a limit of $32 \pm 17 \text{ fb}$ is expected. Further comments on preparation and prospects for Run-2 are also presented.

Oral or Poster Presentation

Oral

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