

Prospects for measurements of the four-top-quark production cross section at the ATLAS experiment at the HL-LHC

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In run 2 of the Large Hadron Collider the ATLAS experiment has found the first evidence for the four-top-quark production processes. In this contribution, we present a sensitivity study of the high-luminosity phase of the LHC to this extremely rare process with a cross section in the Standard Model of only 12 fb. Projections are given for the precision of the inclusive $t\bar{t}t\bar{t}$ cross section measurements in several scenarios extrapolating the run 2 measurements.

Submitted on behalf of a Collaboration?

Yes

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