

Unravelling toponium formation and four-top production in present and future LHC data

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With the expected amount of present and future LHC data, top-quark-related phenomena that very scarcely arise offer new ways to test the Standard Model and probe physics beyond it. In this talk, we focus on two of those phenomena: four-top production and toponium formation. In the former case, we examine effective field theory interpretations of current and expected limits, compare them with approaches based on simplified models and put forward a novel strategy to corner potential new physics effects. In the latter case, we show how reported deviations in top-antitop data could reflect the formation of top-antitop bound states at the LHC.

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