Contribution ID: **15**   Type: **not specified**

Novel approach to probing top-philic resonances with boosted four-top tagging

Saturday, 29 March 2025 15:00 (20 minutes)

We introduce a novel search strategy for heavy top-philic resonances that induce new contributions to four-top production at the LHC. We capitalize on recent advances in top-tagging performance to demonstrate that the final state, that is expected to be boosted based on current limits, can be fully reconstructed and exploited. Notably, our approach promises bounds on new physics cross sections that are a few to 60 times stronger than those obtained with existing searches showcasing its unprecedented effectiveness in probing top-philic new physics.

Primary authors: FUKS, Benjamin (CERN / IPHC Strasbourg); Dr 李, 浩林 (中山大学); Mr TOUCHÈQUE, Julien (CP3/UCLouvain); Prof. DARMÉ, Luc (IP2I, Lyon); Mr MALTONI, Matteo (CP3/UCLouvain); Dr MATTELAER, Olivier (CP3/UCLouvain)

Presenter: Dr 李, 浩林 (中山大学)

Session Classification: Chair：吴兴刚