



OAW

Austrian Academy
of Sciences

HEPHY-SMI seminar

on fundamental interactions and symmetries

Searching for top-quark pair resonances in the all-hadronic final state with ATLAS

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ABSTRACT:

A search for heavy resonances that decay into top-quark pairs producing two massive jets with high transverse momentum is presented. Data collected with the ATLAS detector during the proton-proton collision run at a centre-of-mass energy of 7 TeV in 2011 is analysed.

The substructure-based HEPTopTagger algorithm is used to separate top-quark jets from those arising from light quarks and gluons. Top-quark candidates are also required to have evidence of an associated bottom-quark decay. The contributions from Standard Model background processes, such as top-quark pair production and multijet production, are estimated using data-driven techniques.

No significant deviation between data and the sum of background processes is observed in the di-top invariant mass spectrum and limits on the production cross section times branching fractions of a Z' boson and a Kaluza-Klein gluon resonance are set.

DATE:

Monday, 07.10.2013 - 17:00 s.t.

VENUE:

Institute for High Energy Physics
1050 Wien, Nikolsdorfer Gasse 18
Library, 1st Floor

<http://www.smi.oeaw.ac.at/groups/hephysmiseminar/>



Stefan-Meyer-Institut
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