



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DES SCIENCES

Colloques de Physique des Particules

**dans le cadre de la procédure de nomination d'un-e
professeur-e associé-e ou assistant-e au DPNC**

SUJET: Seeking supersymmetry with jets at ATLAS

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DATE: Mardi 26 novembre 2013, 09h00

LIEU: Science III, Auditoire 1S081
Boulevard d'Yvoy, 1211 Genève 4

RÉSUMÉ:

With the discovery of the Higgs boson, all particles that the Standard Model predicts have been experimentally confirmed. Despite its great success, the Standard Model leaves unanswered several questions: why is the Higgs boson a light particle, are the forces unified at very high energies and what is the dark matter that astrophysical and cosmological observations hypothesise. Several extensions to the Standard Model are proposing solutions to these open questions, with supersymmetry being one of the best motivated and studied. Supersymmetric particles have been extensively searched for at collider experiments, evading discovery so far. They decay dominantly to quarks, creating collimated sprays of particles that are reconstructed in the detector as hadronic jets. Final states with many jets have been thoroughly exploited in the ATLAS experiment at the LHC. A roadmap of how this final state provides a unique discovery potential in the searches for supersymmetry is outlined and prospects for the higher energy and luminosity LHC runs are given.

Les membres du corps enseignants et les étudiants sont invités aux colloques et peuvent faire part de leurs commentaires au Doyen de la Faculté

