



## *Séminaire du Laboratoire de l'Accélérateur Linéaire*

**Géraldine Servant**

**CERN - TH**

**Jour inhabituel**

**Lundi 16 Avril 2012 à 11 :00**

## **New physics hunting with top quarks**

In theories that provide a mechanism for mass generation, we expect new physics to have a large coupling to the top quark. It is therefore natural to use top quark observables to test the mechanism responsible for electroweak symmetry breaking. In this talk, I will present signatures of top-philic new physics, in particular the production of fermionic top partners at the LHC, stressing the theoretical motivations in the context of composite Higgs models. I will also discuss general model independent LHC constraints that can be set on effective dimension-six operators affecting  $t\bar{t}$ ,  $t\bar{t}h$  and four-top production. I'll mention as well potential cosmological implications of top philic new physics.

**Salle 101 du LAL - Bât. 200, Orsay**

Thé et café seront servis 1/4 h avant le séminaire



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