

## Séminaire LAL

**Sébastien Descotes-Genon (LPT Orsay)**

**vendredi 20 mai 2016 à 14h30**

*B-K\* $\mu\mu$  and other  $b \rightarrow s\ell\ell$  rare transitions : a theory status report*

Recent LHCb data on  $b \rightarrow s\ell\ell$  transitions ( $\ell=e,\mu$ ) exhibit an interesting pattern of deviations from Standard Model expectations. I will recall the current situation for the angular distribution of the  $B \rightarrow K^*(\rightarrow K\pi)\mu^+\mu^-$  decay, as well as for other outstanding  $b \rightarrow s\ell\ell$  transitions. I will discuss the theoretical approaches used to determine the Standard Model predictions for these observables and some of their shortcomings, before explaining how the observed deviations can be analysed in a model-independent framework. I will show how a global fit of  $b \rightarrow s\ell\ell$  observables favours several New Physics scenarios with high significances, some of them being particularly relevant for model building. I will discuss alternative explanations for these deviations, as well as ways of testing the robustness of these results.

**Salle 101 - Bât. 200, Orsay**

*Thé et café seront servis 5 mn avant le séminaire*  
Organisation : Nicolas Delerue - Reisaburo Tanaka (LAL) - [seminaires@lal.in2p3.fr](mailto:seminaires@lal.in2p3.fr) -  
<http://www.lal.in2p3.fr>