

Lundi 05/03/2018, 11h00

CEA-Saclay Bât. 141, salle André Berthelot

Testing the Standard Model in rare decays of B mesons at the Belle experiment

SIMON WEHLE

DESY

Rare decays of B mesons are an ideal probe to search for phenomena beyond the Standard Model of particle physics, since contributions from new particles can affect the decays on the same level as Standard Model predictions. The rare decay of $B \rightarrow K^* \ell \ell$ offers the quark transition $b \rightarrow s \ell \ell$, a flavor changing neutral current which is forbidden at tree level in the Standard Model. Higher order processes such as penguin diagrams allow for these processes, leading to branching ratios of less than one in a million. Various extensions to the Standard Model predict influences of new physics, which can enhance or suppress branching ratios or lead to changes in angular distributions of the decay products. We probe the $B \rightarrow K^* \ell \ell$ decay for deviations from Standard Model predictions and perform lepton flavour universality tests using the data of the Belle experiment.

Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Martine Oger, tél. 01 69 08 23 50, e-mail : martine.oger@cea.fr. (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).