Irfu
Institut de recherche
sur les lois fondamentales
de l'Univers

Séminaire DPhP

Lundi 17/09/2018, 11h00

CEA-Saclay Bât. 141, salle André Berthelot

Belle II - First Collisions in a new particle physics experiment at the intensity frontier

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The B factory experiment Belle at the KEKB collider at KEK (Tsukuba, Japan) was built to experimentally investigate CP violation in the B system. Belle and BaBar ultimately confirmed large mixing induced CP violation, leading to the 2008 Nobel Prize in Physics for Kobayashi and Maskawa. The upgrade of the accelerator and experiment to SuperKEKB and Belle II will refine the measurements of previous B factories with vastly improved precision. The upgraded SuperKEKB accelerator will operate at an instantaneous luminosity of up to $8.10^{35}\ cm^{-2}\ s^{-1}$, 40 times larger than that of KEKB. The increased luminosity puts high demands on the detector electronics and data acquisition systems. In order to cope with these requirements, the Belle II upgrade fully replaced the tracking and particle identification (PID) systems of the Belle detector, with substantial upgrades to the readout electronics and some of the active material in the outer detector parts. First electron positron collisions on the Y(4s) resonance of 10.6 GeV were recorded from April to July earlier this year. This talk will give an overview of the Belle II detector and some of its technological highlights as well the status and performance during its first physics collisions.

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).