

**Irfu**Institut de recherche
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Séminaire DPhP

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The Future Circular Collider

ROY ALEKSAN

CEA Saclay, DPhP

Following the discovery of a light Higgs boson by ATLAS and CMS at the LHC in 2012, and coupled with the absence of other new phenomena, the particle physics panorama has become, surprisingly perhaps, very open. While the discovery of the components of Standard model is complete, several undeniable observations tell us that there is more to the story. For example, the nature of dark matter, the origin of the baryon asymmetry in the universe, the mysteries lying behind the very small neutrino masses, are telling us to keep looking for answers, which require new phenomena. To address these issues, two frontiers have to be challenged : the precision and high-energy frontiers. The design study of the accelerator complex that would fit in a new 100 km circular tunnel, called the "Future Circular Colliders", aims at confronting these frontiers in a complementary manner. In the present talk, we will present the FCC project, a selected set of physics studies, which can be achieved, its status and the progress of the design and required R&D.

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).