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## Operational challenges of the Large Hadron Collider

J.Wenninger (CERN)

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After 10 years of R&D and industrialization of superconducting magnets and 6 years of installation, construction of the Large Hadron Collider at CERN is now nearing completion. Commissioning of the over 8000 superconducting magnets has started in 2007 and first beam operation is foreseen for the 2008 CERN accelerator run.

To achieve the LHC energy and luminosity goals, the stored beam energy is pushed orders of magnitude beyond present accelerators, and the complexity of the accelerator is unprecedented. The first part of the presentation presents the LHC and highlights the challenges for operating this collider. The present state of commissioning will be presented.

In the second part, selected aspects of LHC operation related to the demand for very high luminosity will be discussed in more details: beam stability issues, machine protection and beam collimation.

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**Jeudi 22 novembre 2007 à 15 h**  
**Vendredi 23 novembre 2007 à 10h30**

**Salle André Berthelot, bât. 141**

Le café sera servi 15 minutes avant

*NB : La présentation d'une carte d'identité ou d'un passeport est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance de leur visite Emilie Chancrin, tél. 01 69 08 23 50 (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).*

