



OAW

Österreichische Akademie
der Wissenschaften

INVITATION

HEPHY-SMI seminar on
fundamental interactions and symmetries

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Exploring the Energy Frontier - Latest Results from the LHC

ABSTRACT:

The excellent performance of the Large Hadron Collider has so far led to more than 10 inverse femtobarn of proton-proton collision events delivered to each of the general-purpose experiments ATLAS and CMS. In 2012 the centre-of-mass energy was raised from 7 to 8 TeV, currently the highest energy ever achieved by an accelerator, which will enable to explore new frontiers. A large number of topics is being studied, ranging from standard model physics to exotica. Interesting results in the field of the standard model will be presented, including the status of the search for the Higgs boson in several decay channels. Possible new phenomena predicted by theories aiming to extend the standard model will also be discussed. Among the latter are Supersymmetry, which contains a candidate particle for dark matter, and more general unified theories, which may lead to new symmetries and extra dimensions. Gravity might also be encompassed, which could lead to black holes being produced at the LHC. Quarks and leptons may be composite particles, and leptoquarks could exist. A fourth generation may be found. New heavy resonances such as W' , Z' or Kaluza-Klein gravitons might be discovered. The status of the searches for such phenomena will be reviewed.

DATE:

Wednesday, 20.06.2012 - 17:00 s.t.

VENUE:

Institute for High Energy Physics
1050 Wien, Nikolsdorfer Gasse 18
Library, 1st Floor

<http://www.smi.oeaw.ac.at/groups/hephysmiseminar/>



Stefan-Meyer-Institut
für subatomare Physik



HEPHY
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