Contribution ID: **872** Type: **Parallel Session Talk**

Z' discovery potential at the LHC in the minimal B-L model

Friday 23 July 2010 09:45 (15 minutes)

We present the Large Hadron Collider (LHC) discovery potential in the Z' sector of a U(1)*{B-L} enlarged Standard Model (that also includes three heavy Majorana neutrinos and an additional Higgs boson) for sqrt{s}=7 and 14 TeV centre-of-mass (CM) energies, considering both the Z'*{B-L} -> e+e- and Z'*{B-L} -> μ+μ- decay channels. The run of the LHC at sqrt{s}=7 TeV, assuming at most ∫L ˜ 1 fb-1, will be able to give similar results to those that will be available soon at the Tevatron in the lower mass region, and to extend them for a heavier M*{Z'}. Finally, the run at 14 TeV is needed to fully probe the parameter space and its potential is comparable in scope to that of a future TeV scale Linear Collider (LC).
If no evidence is found in any energy configuration, 95% C.L. limits can be determined, and, given their better resolution, the limits from electrons will always be more stringent than those from muons.

Author: Mr BASSO, Lorenzo (NExT Institute (University of Southampton and PPD Rutherford Appleton Laboratory-STFC))

Co-authors: Dr BELYAEV, Alexander (NExT Institute (University of Southampton and PPD Rutherford Appleton Laboratory-STFC)); Dr SHEPHERD-THEMISTOCLEOUS, Claire (PPD Rutherford Appleton Laboratory-STFC); Mr PRUNA, Giovanni (NExT Institute (University of Southampton and PPD Rutherford Appleton Laboratory-STFC)); Prof. MORETTI, Stefano (NExT Institute (University of Southampton and PPD Rutherford Appleton Laboratory-STFC))

Presenter: BASSO, Lorenzo (Rutherford Appleton Laboratory - STFC)

Session Classification: 10 - Beyond the Standard Model (theory and experimental searches)

Track Classification: 10 - Beyond the Standard Model (theory and experimental searches)