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Type: **Young Scientists Forum**

Low Scale Unification @ LHC

Thursday, 14 April 2016 19:00 (10 minutes)

The Talk is based on

- P. Fileviez Perez, S. Ohmer and H. H. Patel,
“Minimal Theory for Lepto-Baryons”,
Phys.Lett. B735 (2014) 283-287,
[arXiv: 1403.8029]
- P. Fileviez Perez and S. Ohmer,
“Low Scale Unification of Gauge Interactions”,
Phys.Rev. D90 (2014) 3, 037701,
[arXiv: 1405.1199]
- S. Ohmer and H. H. Patel,
“Leptobaryons as Majorana Dark Matter”,
Phys.Rev. D92 (2015) 5, 055020,
[arXiv: 1506.00954]

Summary

I will discuss a new class of models where the global baryonic and leptonic symmetries of the Standard Model are promoted to gauge symmetries. Anomaly cancellation requires new fermions called “leptobaryons”. I demonstrate how these new degrees of freedom can allow for the possibility of low scale unification, and I will show how the LHC can search for this class of models and draw connections to dark matter searches.

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