



Contribution ID: 486

Type: **Parallel Talk**

## Exotic signatures of new gauge bosons

*Saturday, July 8, 2017 10:00 AM (15 minutes)*

New gauge bosons with renormalizable couplings to quarks but not to leptons must interact with additional fermions ("anomalons") required to cancel the gauge anomalies. Analyzing the decays of such leptophobic bosons into anomalons, I show that they produce final states involving leptons at the LHC. Resonant production of a flavor-universal leptophobic  $Z'$  boson leads to cascade decays via anomalons, whose signatures include Higgs or electroweak bosons, and missing energy. A  $Z'$  boson that couples to the right-handed quarks undergoes cascade decays that violate lepton universality and include signals with two leptons and Higgs bosons.

### Experimental Collaboration

theory

**Primary author:** DOBRESCU, Bogdan (Fermilab)**Presenter:** DOBRESCU, Bogdan (Fermilab)**Session Classification:** Higgs and new physics**Track Classification:** Higgs and New Physics