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Vector-like multiplets, mixings and the LHC

Monday, 1 December 2014 15:30 (30 minutes)

We consider a model-independent and general framework to study the LHC phenomenology of vector-like quarks, including particles with different electro-magnetic charge. We consider vector-like quarks embedded in general representations of the weak SU(2)L, coupling to all Standard Model quarks via Yukawa mixing. We show that, with very minimal and quite general assumptions, they can be studied in terms of few parameters in an effective Lagrangian description with a clear and simple connection with experimental observables. We also demonstrate that the parametrisation can be applied as well to cases with many vector-like multiplets, thus covering most realistic models of New Physics.

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