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Theoretical constraints on additional higgs bosons

Wednesday 20 May 2015 16:00 (15 minutes)

We present a sum rule for Higgs fields in general representations under $SU(2)_L \times U(1)_Y$ that follows from the connection between the Higgs couplings and the mechanism that gives the electroweak bosons their masses, and at the same time restricts these couplings.

Sum rules that follow from perturbative unitarity will require us to include singly and doubly charged Higgses in our analysis. We examine the consequences of these sum rules for Higgs phenomenology in both model independent and model specific ways.

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