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Gauge-Higgs unification: from EW to GUT

Content :

The SO(5)xU(1) gauge-Higgs EW unification is successful at low energies. The 4D Higgs boson appears as a part of the extra-dimensional component of gauge fields. It gives definitive predictions for H -> gamma gamma, Z gamma etc, consistent with 8 TeV LHC, and for Z', W' events to be explored at 14 TeV LHC. The model is extended to the SO(11) gauge-Higgs grand unification with fermion multiplets in 32 and 11 representations.
Although GUT multiplets show up at the KK scale much smaller than 10^15 GeV, the proton decay is naturally suppressed by the new fermion number conservation.

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