## Supersymmetry 2011 (SUSY11)



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## Constraints on realistic Gauge-Higgs unified models

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The general group structure of Gauge-Higgs unified models is investigated. It is found that a given embedding of the Standard Model gauge group, independent of the compactification scheme, implies the presence of additional light vectors, except for a small set of special cases. Models in this set are then studied to verify if they can accommodate quarks and have a vanishing oblique T parameter at tree level. It is found that none of the resulting models can have an acceptable value for the sine of the weak-mixing angle (at tree level). A discussion on possible solutions to this problem is presented.

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