

Physics stuff I like to think about

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$$m_h^2 = m_Z^2 \cos^2(2\beta) + \frac{3m_t^4}{4\pi^2 v^2} \left(\log \left(\frac{M_S^2}{m_t^2} \right) + \frac{X_t^2}{M_S^2} \left(1 - \frac{X_t^2}{12M_S^2} \right) \right)$$

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Modify tree-level

1. *NMSSM*: $W = \lambda N H_u H_d + \kappa N^3$
2. *UMSSM*: *Extra gauge group*
3. ...



Hard to hide !

Rely on the loops



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2. *$M_S > 2 \text{ TeV}$ and $X_t/M_S \approx \mp \sqrt{6}$*



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$$A_t \sim m_{\text{soft}}$$

Other stuff I thought about

- μ - B_μ and A - m_{H_u} problems
- $t\bar{t}$ asymmetry
- unparticle physics (= hidden CFT)
- exotic susy algebras

Stuff I'd like to think (more) about

- CFT's and applications
- Composite Higgs models
- Collider physics & QCD
- Higgs!
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Collaborators: D. Shih, N. Craig, Y. Zhao, M. Strassler, S. Kathrein, L. Tamassia, F. Elmetti, R. Casselbuoni, ???