

# Phenomenology 2015 Symposium



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## 125 GeV Higgs from Tree-level A-terms

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We present a new mechanism to generate large A-terms at tree-level in the MSSM through the use of superpotential operators. The mechanism trivially resolves the  $A/m^2$  problem which plagues models with conventional, loop-induced A-terms. We study both MFV and non-MFV models; in the former, naturalness motivates us to construct a UV completion using Seiberg duality. Finally, we study the phenomenology of these models when they are coupled to minimal gauge mediation. We find that after imposing the Higgs mass constraint, they are largely out of reach of LHC Run I, but they will be probed at Run II. Their fine tuning is basically the minimum possible in the MSSM.

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