

# International Workshop on Grand Unified Theories: Current Status and Future Prospects



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## Proton Decay and Flavor Violating Thresholds in SO(10) Models

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Discovery of neutrino mass has put the spotlight on supersymmetric SO(10) as a natural candidate for grand unification of forces and matter. However, the suppression of proton decay is a major problem in any supersymmetric grand unified models. In this paper we show how to alleviate this problem by simple threshold effect which raises the colored Higgsino masses and the grand unification scale to  $\gtrsim 10^{17}$  GeV. There exist only four types of fields arising from different SO(10) representations which can generate this kind of threshold effects. Some of these fields also generate a sizable flavor violation in the quark sector compared to the lepton sector. The  $b$ - $\tau$  unification can work in these types of models even for intermediate values of  $\tan\beta$ .

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