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Little Conformal Symmetry RACHEL HOUTZ, KIT COLWELL, JOHN TERNING, UC Davis — We explore a new class of natural models which ensure the one-loop divergences in the Higgs mass are cancelled. The top-partners that cancel the top loop are new gauge bosons, and the symmetry relation that ensures the cancellation arises at an infrared fixed point. Such a cancellation mechanism can, a la Little Higgs models, push the scale of the new physics that completely solves the hierarchy problem up to 5-10 TeV. When embedded in a supersymmetric model, the stop and gravitino masses provide the cutoffs for the loops, and the mechanism ensures a cancellation between the stop and gaugino mass dependence of the Higgs mass parameter.

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