

### 3/4/08 Lecture outline

- Recall  $K = L\bar{L} + H\bar{H}$  with  $W = \frac{1}{2}gLH^2$  example. Non-renormalization theorem and  $\Delta m_{\mathcal{L}}^2 = 0$  if supersymmetry is unbroken. Example of parameters as background expectation values of chiral superfields  $\langle gL \rangle = m_H$ .

- Seiberg's proof of non-renormalization using holomorphy of  $W(\Phi_i, g_r)$  in chiral superfields and also the coupling constants, along with symmetries and known limits. Examples.

- Soft supersymmetry breaking, and parameters, as background chiral superfields, having F-component expectation values.