

THE HETEROTIC $SU(3)$ MODULI SPACE

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The heterotic $SU(3)$ system (or Hull-Strominger system) couples together ambient Hermitian geometry with gauge theoretic data and arises from heterotic String Theory. A degenerate limit of the system is a Calabi-Yau 3-fold endowed with an $SU(3)$ instanton (or Hermitian Yang-Mills connection). The system has attracted significant recent interest due to hopes that it can be related to Reid's fantasy and conifold transitions, but to achieve this one needs to understand the moduli space of solutions. I will describe recent joint work with de Lazari, Sa Earp and Svanes on this heterotic $SU(3)$ moduli space.