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**Tristan Clifford Collins\***, 77 Massachusetts Ave., Cambridge, MA 02139, and **Shing-Tung Yau**. *Stability and nonlinear PDE in mirror symmetry*.

A longstanding problem in mirror symmetry has been to understand the relationship between the existence of solutions to certain geometric nonlinear PDES (the special Lagrangian equation, and the deformed Hermitian-Yang-Mills equation) and algebraic notions of stability, mainly in the sense of Bridgeland. I will discuss progress in this direction through ideas originating in infinite dimensional GIT. This is joint work with S.-T. Yau. (Received January 23, 2019)