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*A geometric flow for Type IIA superstrings*

The equations of flux compactifications of Type IIA superstrings were written down by Tomasiello and Tseng-Yau. To study these equations, we introduce a natural geometric flow on symplectic Calabi-Yau 6-manifolds. We prove the well-posedness of this flow and establish the Shi-type estimates which provides a criterion for the long time existence. As an application, we make use of our flow to find optimal almost complex structures on certain homogeneous symplectic half-flat manifolds. This is based on joint work with Fei, Phong and Picard.