1086-53-1061   **Mark Gross*** (`mgross@math.ucsd.edu`), **Valentino Tosatti**
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Recent results on Gromov-Hausdorff limits of Calabi-Yau manifolds.

I will talk about recent work in understanding Gromov-Hausdorff limits of abelian variety fibred Calabi-Yau manifolds. Given an abelian variety fibration $f : M \to N$ with M a Calabi-Yau manifold, one considers a family of Ricci-flat Kähler metrics converging to a wall of the Kähler cone of M corresponding to the fibration f, i.e., one considers a family of Kähler classes $f^*[\omega_0] + t[\omega]$ where ω_0 is a Kähler form on N and ω a Kähler form on M. For each $t \neq 0$, we obtain a Ricci-flat metric ω_t in this Kähler class. As $t \to 0$, ω_t degenerates, and we examine the Gromov-Hausdorff limit, showing we obtain collapsing to a metric space closely related to N (possible homeomorphic to N). (Received September 18, 2012)