

1139-53-240

Valentino Tosatti* (tosatti@math.northwestern.edu), 2033 Sheridan Rd, Evanston, IL 60208-2730. *Metric limits of Calabi-Yau manifolds.*

Calabi-Yau manifolds are a class of compact complex manifolds that enjoys remarkable geometric properties, which makes them widely-studied objects in several areas of mathematics. Their defining feature are special Riemannian metrics which have vanishing Ricci curvature and are compatible with the complex structure (they are Kähler metrics). The existence of such Ricci-flat Kähler metrics was conjectured by Calabi and proved by Yau, hence their name. I will discuss the problem of understanding the behavior of degenerating families of Ricci-flat Kähler metrics on a Calabi-Yau manifold, and what their possible metric limits are. I will explain what we know in general about such metric limits, what techniques are used to approach these questions, and what applications these results have. (Received February 12, 2018)