

Dr. Daheng Min

Universität Münster

Construction of higher dimensional ALF Calabi-Yau metrics

14. April 2026 – 16:15 Uhr

Raum 7.530

Abstract: Roughly speaking, an ALF metric of real dimension $2n$ should be a complete metric such that its asymptotic cone is of dimension $2n-1$, the volume growth of this metric is of the order of $2n-1$ and its sectional curvature tends towards 0 near the infinity. I will give examples of ALF Calabi-Yau metrics of real dimension greater than 4. Our first example is that the Taub-NUT deformation of a hyperkählerian cone with respect to a locally free circle action is hyperkählerian ALF. The second example is that a special class of complete Calabi-Yau metric on C^n constructed by Apostolov and Cifarelli is ALF. Based on these examples, I will explain how to produce more ALF Calabi-Yau metrics on some resolutions of known examples modeled on them. In particular, there exist ALF Calabi-Yau metrics on the canonical bundles of classical homogeneous Fano contact manifolds.

