Leibniz Universität Hannover

Oberseminar
Institut für Algebraische Geometrie

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Higher dimensional Calabi-Yau manifolds of Kummer type.

We construct Calabi-Yau manifolds of arbitrary dimensions as a resolution of a quotient of a product of a $K3$ surface and $(n-2)$ elliptic curves with a strictly non-symplectic automorpism of order 2, 3, 4 or 6. This construction generalize a result of Cynk and Hulek and the classical construction of Borcea and Voisin, the proof is based on toric resolution of singularities. Using Chen-Ruan orbifold cohomology we compute the Hodge numbers of all constructed examples and give a method to compute the local Zeta functions. As an application we generalize the construction of Zariski $K3$ surfaces due to Katsura and Schuett to obtain arbitrarily dimensional Calabi-Yau manifolds which are Zariski in any characteristic not congruent to 1 modulo 12.

Donnerstag , 21.10.2021
16:30 - 17:30, Raum B302
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Alle Interessierten sind herzlich eingeladen.