

C3 Algebraic Geometry: Deformations, Moduli and Vector Bundles

Project C3 involves three major research groups in complex algebraic geometry in Berlin. The emphasis lies on questions of geometric nature and mathematical physics provides sometimes the motivation for the problems posed. The major topics are the study of varieties with torus actions with focus on singularities and their deformations (Altmann), the moduli spaces of curves and abelian varieties, in particular questions on slopes and superstring scattering amplitudes on the spin moduli space (Farkas), and vector bundles with applications to mathematical physics, for instance moduli spaces of symplectic instantons (Schmitt).