

Announcement

Seminar on Deformation Quantization

14. 5. 2021 at 5PM CEST (Later time than usual!)

<https://uni-wuerzburg.zoom.us/j/92529190594?pwd=WkJvR1o1QUdldUNSSjFJbHB4c0Z0dz09>

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K3 surfaces with symplectic group actions, enumerative geometry, and modular forms

The Hilbert scheme parameterizing n points on a K3 surface X is a holomorphic symplectic manifold with rich properties. In the 90s it was discovered that the generating function for the topological Euler characteristics of the Hilbert schemes is related to both modular forms and the enumerative geometry of rational curves on X . We show how this beautiful story generalizes to K3 surfaces with a symplectic action of a group G . Namely, the Euler characteristics of the “ G -fixed Hilbert schemes” parametrizing G -invariant collections of points on X are related to modular forms of level $|G|$ and the enumerative geometry of rational curves on the orbifold quotient $[X/G]$. The picture also generalizes to refinements of the Euler characteristic such as χ_y genus and elliptic genus leading to connections with Jacobi forms and Siegel modular forms.

Invited by Stefan Waldmann