

Refined knot invariants and Hilbert schemes

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Motivated by string theory, Aganagic and Shakirov proposed an idea of refined knot invariants" depending on two parameters, and gave a rigorous definition of these invariants for torus knots. Conjecturally, they are related to Poincare polynomials of Khovanov-Rozansky homology. I will explain an explicit construction of sheaves on the Hilbert scheme of points such that their equivariant Euler characteristics agree with the Aganagic-Shakirov invariants (and two parameters correspond to equivariant weights).

The talk is based on a joint work 1304.3328 with Andrei Negut.

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