

## Colored HOMFLY polynomial of torus knots and links

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The colored HOMFLY polynomial is a family of link invariants parameterized by arbitrary partitions, specializing to the HOMFLY polynomial when the partition is the trivial one. These invariants have attracted much attention recently because of deep relations with the geometry of Calabi-Yau 3-folds, but on the other hand they are rather difficult to be computed.

In this talk we present a closed formula for the colored HOMFLY polynomial of torus knots and links, together with some conjectural structures among these invariants. In this joint work with Xiao-Song Lin, we make use of a clear formulation of the Shur-Weyl duality between the Hecke algebras and the quantum  $sl_N$ .

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