

Normal rulings, DG-algebra representations, and the colored HOMFLY-PT polynomial

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Normal rulings are certain decompositions of front diagrams of Legendrian links in R^3 that were discovered independently by Chekanov & Pushkar and Fuchs in the context of generating families and augmentations of the Legendrian DG-algebra respectively. They can be used to define combinatorial invariants of Legendrian links called ruling polynomials. In this talk, I will survey some results connecting normal rulings with augmentations and with 2-variable topological knot polynomials (HOMFLY-PT and Kauffman). In particular, I will discuss recent joint work with C. Levenson and J. Murray relating counts of higher rank augmentations to the n-colored HOMFLY-PT and Kauffman polynomials.

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