

The A polynomial of twist knots
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Abstract:

The A -polynomial was introduced in 1994. Unlike many other knot invariants, the A -polynomial encodes a lot of topological information about the knot in an accessible way. For example, the slopes of the Newton polygons of these polynomials are slopes of incompressible surfaces in the knot complement. However, it remains difficult to compute these polynomials. We present recent progress in deriving the A -polynomial for an infinite family of knots, the twist knots. In particular, we have computed the Newton polygons for all these polynomials. We also have determined the polynomials mod 2 for twist knots K_n where n is a power of 2.