

Twisted Alexander polynomials for irreducible $SL(2, \mathbb{C})$ -representations of torus knots

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Abstract. We prove that the twisted Alexander polynomial of a torus knot with an irreducible $SL(2, \mathbb{C})$ -representation is locally constant. In the case of a $(2, q)$ torus knot, we can give an explicit formula for the twisted Alexander polynomial and deduce Hirasawa-Murasugi's formula for the total twisted Alexander polynomial. We also give examples which address a mis-statement in a paper of Silver and Williams.

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