Mathematics > Geometric Topology

Torus knot state asymptotics

Laurent Charles

(Submitted on 23 Jul 2011)

The state of a knot is defined in the realm of Chern-Simons topological quantum field theory as a holomorphic section on the SU(2) character manifold of the peripheral torus. We compute the asymptotics of the torus knot states in terms of the Alexander polynomial, the Reidemeister torsion and the Chern-Simons invariant. We also prove that the microsupport of the torus knot state is included in the character manifold of the knot exterior. As a corollary we deduce the Witten asymptotics conjecture for the Dehn filling of the torus knots and asymptotic expansions for the colored Jones polynomials.

Comments:	32 pages
Subjects:	**Geometric Topology (math.GT)**; Mathematical Physics (math-ph)
Cite as:	**arXiv:1107.4692v1 [math.GT]**

Submission history

From: Laurent Charles [view email]
[v1] Sat, 23 Jul 2011 14:38:08 GMT (23kb)

Which authors of this paper are endorsers?