

Triple point cancelling numbers of torus-covering knots

Inasa Nakamura

Gakushuin University

Abstract. It is known that any surface knot can be transformed to an unknotted surface knot or a surface knot which has a diagram with no triple points by a finite number of 1-handle additions. The minimum number of such 1-handles is called the unknotting number or the triple point cancelling number, respectively. In December 2011, I gave a talk in this seminar on upper bounds and lower bounds of unknotting numbers of torus-covering knots, which are surface knots in the form of coverings over the standard torus T . In this talk, we give lower bounds of triple point cancelling numbers of torus-covering knots, by using Iwakiri's result and calculating quandle cocycle invariants. In particular, we give examples of torus-covering knots whose unknotting numbers and triple point cancelling numbers are exactly two.