

Band surgery on 2-component links

Taizo Kanenobu

Osaka City University

Abstract. An oriented 2-component link is called band-trivializable, if it can be unknotted by a single band surgery. We consider whether a given 2-component link is band-trivializable or not. Then we can completely determine the band-trivializability for the prime links with up to 9 crossings. We use the signature, the Jones and Q polynomials, and the Arf invariant. Since a band-trivializable link has 4-ball genus zero, we also give a table for the 4-ball genus of the prime links with up to 9 crossings. Furthermore, we give an additional answer to the problem of whether a $(2n + 1)$ -crossing 2-bridge knot is related to a $(2, 2n)$ torus link or not by a band surgery for $n = 3, 4$, which was brought from the study of a DNA site-specific recombination.