Quasi-torus links and distance by zero-linking twists

Akio Kawauchi
Osaka City University
kawauchi@sci.osaka-cu.ac.jp

Given an oriented link $L$ and a trivial knot $k$ in the 3-sphere with the linking number $\text{Link}(L, k) = 0$, we can obtain a link $L'$ from $L$ by twisting $L$ along $k$. The operation $L \to L'$ is called a zero-linking twist. Any two oriented links with the same number of components are transformed each other by some number of zero-linking twists.

In this talk, we first review an algebraic estimation (given in Kobe J. Math. 13(1996),183-190) on the minimal number of zero-linking twists needed to transform between two given oriented links with the same number of components. By using this result, we estimate the distance between a quasi-torus link of type $(p, q)$ introduced by V. O. Munturov and the torus link of type $(p, q)$. This result will be included in a joint work with Yongju Bae and Seogman Seo.