

講演者：合田 洋（東京農工大学）

Title : Volume formulas using the twisted Alexander invariant and the matrix weighted zeta function

A hyperbolic knot complement allows the hyperbolic structure, so we can define the volume of the knot complement. In this talk, we show some volume formulas of knots using the twisted Alexander invariant.

Next, we introduce the matrix-weighted zeta function of a graph, which was defined by Sato, Mitsuhashi and Morita. We define a digraph obtained from an oriented knot diagram, then we show that the inverse of the twisted Alexander invariant of a knot may be regarded as the matrix-weighted zeta function of the digraph. We will discuss a volume formula using the matrix-weighted zeta function.