
ROBIN KOYTCHEFF, University of Louisiana at Lafayette

Operadic decompositions of spaces of string links

Budney showed that the space of long knots in 3-space is the free 2-cubes object on the space of prime knots, generalizing prime decomposition of knots from isotopy classes to the space of knots. He also showed that the space of long knots is freely generated over a splicing operad by the subspace of torus and hyperbolic knots, generalizing satellite decomposition of knots from isotopy classes to the space level. In joint work with Burke, we constructed a colored operad for string link infection, generalizing Budney's splicing operad from knots to links. We then decomposed a subspace of 2-component string links over a certain suboperad of the infection operad. We conjecture that the full space of 2-string links admits a decomposition involving a suboperad related to the Swiss cheese operad. This conjecture is the subject of planned work with Songhafou Tsopmé.