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Seminar

Category of formal knot complexes

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Abstract

Formal knot complex is an algebraic generalization of the knot Floer complex called CFK^{∞}. We prove that the set of certain stable homotopy equivalence classes of formal knot complexes forms an abelian group (called the formal knot concordance group), where the map from knots in S^3 to their CFK^{∞} induces a group homomorphism from the knot concordance group to the formal knot concordance group.

Moreover, we introduce an infinite family G_n of invariants of formal knot complexes under stable homotopy equivalence, which gives an infinite family of new knot concordance invariants. In particular, the primary invariant G_0 determines the concordance invariants called tau, V_k, nu^+ and Upsilon. By using G_n, we prove that there exist infinitely many formal knot complexes with genus one which cannot be realized by any knot in S_3.

Date: 19 November 2019 (Tuesday)
Time: 1:00pm – 2:00pm
Venue: Room 222, Lady Shaw Building,
             The Chinese University of Hong Kong, Shatin

All are Welcome