

KNOT THEORY AND QUASI-MORPHISMS

ABSTRACT. Quasi-morphisms on a group are real-valued functions which satisfy the homomorphism equation “up to a bounded error”. They are known to be a helpful tool in the study of the algebraic structure of non-Abelian groups.

I will discuss a construction relating

- a) certain knot and link invariants – in particular, the ones that come from the knot Floer homology and a Khovanov-type homology,
- b) braid groups,
- c) the dynamics of area-preserving diffeomorphisms of a two-dimensional disc,
- d) quasi-morphisms on the group of all such compactly supported diffeomorphisms of the disc.