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Title: Quasi-morphisms and metrics on groups of Hamiltonian diffeomorphisms

Abstract: In this talk I will discuss various metrics on groups of area preserving diffeomorphisms of orientable surfaces. These groups admit a natural bi-invariant Autonomous metric which is related to dynamics. I will show that any finitely generated free Abelian group embeds, in a bi-Lipschitz way, into these groups. The proof involves a construction of certain invariants of conjugacy classes in braid and mapping class groups, and configuration space integrals.