

Dan Cristofaro-Gardiner (IAS and UC Santa Cruz): The Kapovich-Polterovich question

Tuesday, May 18, 2021 4:30 PM (50 minutes)

The group of Hamiltonian diffeomorphisms of a symplectic manifold admits a remarkable bi-invariant metric, called Hofer's metric. Many basic questions about the geometry of this metric remain open. For example, in 2006 Kapovich and Polterovich asked whether or not this group, in the case of the two-sphere, is quasi-isometric to the real line. I will explain joint work with Humilière and Seyfaddini resolving this question: we show that the group contains quasi-isometric copies of \mathbb{R}^n for any n , and we also show that the group is not coarsely proper. Key to our proofs is a new sequence of spectral invariants defined via Hutchings' Periodic Floer Homology.