

Research Project

(1) Existence of equivariant hyperbolic diffeomorphisms

I proved that in case of certain holomorphic torus actions, the existence of a representation covering implies the existence of a certain equivariant hyperbolic diffeomorphism. I plan to generalize this result to case of compact connected Lie groups. In case of torus actions, the crucial point was the existence of topological generators. I examine the usage of a result of H.Auerbach which states that every compact connected Lie group is topologically generated by two elements,

(2) GKM theory and Morse theory

GKM theory deduces the structure of the equivariant cohomology of the configuration of certain spheres. I want to give Morse theoretic understanding for this phenomenon.