HAJIME FUJITA, Japan Women's University
A K-homology cycle via perturbation by Dirac operators along orbits

Recently Loizides-Song developed a geometric quantization of Hamiltonian loop group space in terms of KK-theory. In their work a K-homology cycle constructed from a Dirac operator on a non-compact complete manifold has crucial role. They constructed such a cycle based on a C^*-algebraic condition for vector bundles. On the other hand, as a joint work with M.Furuta and T.Yoshida, the speaker developed an index theory based on perturbation by Dirac operators along orbits of torus action, and gave applications to localization phenomena to lattice points in geometric quantization. In this talk we will report ongoing work to construct a Loizides-Song type K-homology cycle via perturbation by Dirac operator along orbits.