

LOCAL RIGIDITY OF ISOMETRIC ACTIONS

DAVID FISHER

Let Γ be a group and suppose $\rho : \Gamma \times M \rightarrow M$ is a smooth action on a compact manifold M . We say that ρ is locally rigid if any action ρ' that is sufficiently close to ρ is conjugate to ρ by a diffeomorphism. The main result I will discuss is that if Γ has property T of Kazhdan and ρ preserves a Riemannian metric, then ρ is locally rigid. (Γ has property T if any isometric action on a Hilbert space has a fixed point.) This is joint work with G.A.Margulis. I will also discuss foliated versions of the result used in our joint work on local rigidity of standard actions of higher rank lattices.