ON THE CONCENTRATION OF EIGENFUNCTIONS.

CHRISTOPHER SOGGE

I shall present some results in global harmonic analysis that concern properties of eigenfunctions on compact Riemannian manifolds. Using local arguments we can show that L^p norms of eigenfunctions over the entire manifold are saturated if and only if there are small balls (if p is large) or small tubular neighborhoods of geodesics (if p is small) on which the eigenfunctions have very large L^p mass. Neither can occur on manifolds of nonpositive curvature, or, more generally, on manifolds without conjugate points.