Laaroussi, Abdellah: Family of isospectral but non-diffeomorphic nilmanifolds and spectral asymptotics (204)

In this talk we discuss a Subriemannian structure on quotients $\Gamma\backslash\mathbb{G}$, where $\mathbb{G}$ is a 2-step nilpotent Lie group and Γ a lattice of this group. Based on an explicit representation of the heat kernel for the Sublaplacian on $\Gamma\backslash\mathbb{G}$ and a recent classification of pseudo-H-type Lie algebras we give a family of isospectral but non-diffeomorphic manifolds. We also discuss the asymptotics of the eigenvalue counting function in this non-elliptic case.