Sub-Laplacian eigenvalue bounds on sub-Riemannian manifolds

ASMA HASSANNEZHAD AND GERASIM KOKAREV

Abstract. We study eigenvalue problems for intrinsic sub-Laplacians on regular sub-Riemannian manifolds. We prove upper bounds for sub-Laplacian eigenvalues λ_k of conformal sub-Riemannian metrics that are asymptotically sharp as $k \to +\infty$. For Sasakian manifolds with a lower Ricci curvature bound and, more generally, for contact metric manifolds conformal to such Sasakian manifolds, we obtain eigenvalue inequalities that can be viewed as versions of the classical results by Korevaar and Buser in Riemannian geometry.

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