

ABSTRACT. In this paper, we studied complete manifolds whose spectrum of the Laplacian has a positive lower bound. In particular, if the Ricci curvature is bounded from below by some negative multiple of the lower bound of the spectrum, then we established a splitting type theorem. Moreover, if this assumption on the Ricci curvature is only valid outside a compact subset, then the manifold must have only finitely many ends with infinite volume. Similar type theorems are also obtained for complete Kähler manifolds.