THE SPECTRUM OF THE LAPLACIAN ON MANIFOLDS: SOME RECENT RESULTS

LUCIANO MARI

In this talk, I will give an overview of recent results concerning the spectrum of the Laplace-Beltrami operator in a non-compact manifold. In particular, I will discuss criteria for its discreteness, as well as conditions ensuring that a half-line belongs to the spectrum. The case of immersed submanifolds will also be considered, and emphasis will be put on the links between the spectrum and geometric data, either intrinsic (curvatures, volume growth of balls) or extrinsic (density growth, Hausdorff dimension of the limit set).