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Nelia Charalambous* (nelia.ch@gmail.com), Departamento de Matematicas, ITAM, Rio Hondo #1, Col. Tizapan-San Angel, 01000 Mexico, DF, Mexico. *The space of harmonic sections on noncompact manifolds.*

The space of harmonic functions and forms over a compact manifold is determined by the topology of the manifold. Over noncompact manifolds however, these spaces reflect not only the topology, but also the geometry of the manifold including its curvature and volume growth. In this talk we will discuss the space of harmonic functions of polynomial growth and will present sufficient conditions on the manifold so that its dimension is bounded. We will also see how to generalize these results to the space of harmonic forms. (Received September 13, 2010)