1003-58-150 **Mihail Cocos*** (`cocos@math.umn.edu`), Department of Mathematics, University of Minnesota, 127 Vincent Hall, 206 Church Street, Minneapolis, MN 55455. *Hodge-DeRham Theory for non-compact Riemannian manifolds.*

In the present paper we analyze the spaces of harmonic forms (harmonic with respect to the Laplacian acting on forms) subject to various restrictions. We consider the case of L^2 harmonic forms and bounded harmonic forms. The manifolds which support these forms are of negative sectional curvature outside a compact subset or they are universal covers of compact manifolds. In some of these cases finite dimensionality of the space of harmonic forms is established. (Received August 12, 2004)