1093-58-185   **Pierre Albin*** (`palbin@illinois.edu`), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green Street, Urbana, IL 61801. *Hodge cohomology on singular spaces.*

The cohomology of any smooth closed manifold can be represented analytically as the de Rham group of closed forms modulo exact forms. If the manifold has a Riemannian metric, then in each cohomology class we can find a unique harmonic representative.

On singular spaces the situation is more complicated. If the singularities are geometrically controlled, in that the space is 'stratified,' then there is an analogous story as long as the cohomology and the metric are adapted to the singularities. These spaces arise naturally when studying smooth spaces or maps, for instance, as algebraic varieties, orbit spaces or moduli spaces.

The seminal work on these cohomologies is due to Goresky-MacPherson and Cheeger. I will report on joint work with Eric Leichtnam, Rafe Mazzeo, and Paolo Piazza extending and refining these theories to general stratified spaces. (Received August 13, 2013)