1022-58-31 **Paul Loya*** (paul@math.binghamton.edu), Math Department, Binghamton University, Vestal Parkway East, Vestal, NY 13850. *Geometric BVPs and the Cauchy integral and transform on regions with corners.*

This talk concerns the Cauchy integral and transform and Hardy spaces for Dirac-type operators on manifolds with corners of codimension two. Instead of considering Banach or Hilbert spaces, we use polyhomogeneous functions on manifolds with corners, which are the "closest" analog of smooth functions on manifolds with boundary. These are functions that are smooth everywhere except at the corners where they have a "Taylor series" (with possible log terms) in polar coordinates. The main application of our analysis is a complete Fredholm theory for boundary value problems of Dirac operators on manifolds with corners of codimension two. (Received August 31, 2006)