1027-33-134 **Cristina Balderrama** and **Wilfredo O Urbina*** (wurbina@math.unm.edu), Department of Mathematics and Statistics, MSC03 2150, 1 University of New Mexico, Albuquerque, NM 87131.

Fractional Integration and Fractional Differentiation for d-dimensional Jacobi Expansions.

We consider an alternative orthogonal decomposition of the space L^2 associated to the d-dimensional Jacobi measure and obtain an analogous result to P.A. Meyer's Multipliers Theorem for d-dimensional Jacobi expansions. Then we define and study the Fractional Integral, the Fractional Derivative and the Bessel potentials induced by the Jacobi operator. We also obtain a characterization of the potential spaces and a version of Calderón's reproduction formula for the d-dimensional Jacobi measure. (Received February 24, 2007)