1014-42-668 **Paul T Taylor*** (taylorp@math.mcmaster.ca), Department of Mathematics and Statistics, McMaster University, 1280 Main St. W, Hamilton, Ontario L8S4K1, Canada. *Bochner-Riesz means With Respect to a Rough Distance Function.*

The generalized Bochner-Riesz operator $S^{R,\lambda}$ may be defined as

$$S^{R,\lambda} f(x) = \mathcal{F}^{-1}\left[\left(1-\frac{\rho}{R}\right)_+^{\lambda} \widehat{f}\right](x)$$

where ρ is an appropriate distance function and $\mathcal{F}^{-1}$ is the Inverse Fourier Transform. The behavior of $S^{R,\lambda}$ on $L^p(\mathbf{R}^d \times \mathbf{R})$ is described for $\rho(\xi', \xi_{d+1}) = \max\{|\xi'|, |\xi_{d+1}|\}$, a rough distance function. We conjecture that this operator is bounded on $\mathbf{R}^d \times \mathbf{R}$ when $\lambda > \max\{d(\frac{1}{2} - \frac{1}{p}) - \frac{1}{2}, 0\}$ and $p < 2 + \frac{6}{d-3}$, and unbounded when $p \geq 2 + \frac{6}{d-3}$. This conjecture is verified for large ranges of p. (Received September 22, 2005)