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Matthew B. Rudd* (mbrudd@sewanee.edu). *Statistical approximations of p -harmonic functions.*

I will discuss recent work on variants of the mean value property related to p -harmonic functions of two variables. When $p = 1$ and data are prescribed on the boundary of a domain Ω , we have a local median value property that is either easy or impossible to solve, depending on how the data and the geometry of $\partial\Omega$ interact. When $p > 1$, we have statistical functional equations that provide elementary algorithms for computing p -harmonic functions with given boundary values. (Received July 26, 2011)