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Robert G. Smits* (rsmits@nmsu.edu), Department of Mathematical Sciences, MSC 3MB, MSC 3MB, NM 88003-8001. *Subexponential Decay of Heat Kernels and Brownian Motion.*

In this talk, I will discuss recent findings relating the heat kernel decay and the geometry of unbounded domains in terms of their Martin kernel at infinity and geometric conditions on the growth of the inradius. Using tools from complex analysis, stochastic processes and functional analysis the subexponential decay of various heat kernel is determined. (Received February 11, 2004)