FIRST HITTING TIMES OF BESSEL PROCESSES AND ZEROS OF MODIFIED BESSEL FUNCTIONS

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Explicit expressions for the distribution functions, the densities and the Lévy measures of the probability distributions of the first hitting times of the classical Bessel processes are presented. The asymptotic behaviors of the distribution functions and the densities are deduced from their expressions. Some other applications are also given. In particular, some results on the zeros of the modified Bessel (Macdonald) functions by using an identity obtained in the course of study are mentioned.