

A martingale on the zero-set of a holomorphic function

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Abstract

We give a simple probabilistic proof of the classical fact from complex analysis that the zeros of a holomorphic function of several variables are never isolated and that they are not contained in any compact set. No facts from complex analysis are assumed other than the Cauchy-Riemann definition. From stochastic analysis only the Ito formula and the standard existence theorem for stochastic differential equations are required.

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