ULTRAMETRIC DIFFUSION, EXPONENTIAL LANDSCAPES, AND THE FIRST PASSAGE TIME PROBLEM

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ABSTRACT. In this article we study certain ultradiffusion equations connected with energy landscapes of exponential type. These equations were introduced by Avetisov et al. in connection with certain p-adic models of complex systems, [2]-[1]. We show that the fundamental solutions of these equations are transition density functions of Lévy processes with state space $\mathbb{Q}_p^n$, we study some aspects of these processes including the first passage time problem.

REFERENCES

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