

POTENTIAL THEORY OF SCHRÖDINGER OPERATOR BASED ON
FRACTIONAL LAPLACIAN

Krzysztof Bogdan
Tomasz Byczkowski

Abstract: We develop potential theory of Schrödinger operators based on fractional Laplacian on Euclidean spaces of arbitrary dimension. We focus on questions related to gaugeability and existence of q -harmonic functions. Results are obtained by analyzing properties of a symmetric α -stable Lévy process on R^d , including the recurrent case. We provide some relevant techniques and apply them to give explicit examples of gauge functions for a general class of domains.

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