

THE SOLUTION OF THE KATO PROBLEM IN TWO DIMENSIONS

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Abstract

We solve, in two dimensions, the “square root problem of Kato”. That is, for $L \equiv -\operatorname{div}(A(x)\nabla)$, where $A(x)$ is a 2×2 accretive matrix of bounded measurable complex coefficients, we prove that $L^{1/2}: L^2_1(\mathbb{R}^2) \rightarrow L^2(\mathbb{R}^2)$.

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