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GAUSSIAN ESTIMATES FOR FUNDAMENTAL SOLUTIONS TO CERTAIN PARABOLIC SYSTEMS

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Abstract

Auscher proved Gaussian upper bound estimates for the fundamental solutions to parabolic equations with complex coefficients in the case when coefficients are time-independent and a small perturbation of real coefficients. We prove the equivalence between the local boundedness property of solutions to a parabolic system and a Gaussian upper bound for its fundamental matrix. As a consequence, we extend Auscher's result to the time dependent case.

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