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DECAY BOUNDS FOR SOLUTIONS OF SECOND ORDER PARABOLIC PROBLEMS AND THEIR DERIVATIVES II

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Abstract. Extending the investigations initiated in an earlier paper, the authors deal in this paper with the solution to an initial-boundary value problem for a more general quasilinear heat equation in which the nonlinearity is such that the solution, without appropriate data restrictions, may blow up at some finite time. For such an equation they determine conditions on the data and geometry sufficient to insure that the solution remains bounded and then derive exponential decay bounds for the solution and its spatial gradient.

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