

1044-35-22

Philip W. Schaefer* (schaefer@math.utk.edu), Department of Mathematics, University of Tennessee, Knoxville, TN 33916. *Energy and Pointwise Bounds in Some Non-Standard Parabolic Problems.*

We study a class of initial-boundary value problems for which an auxiliary condition of the form $cu(x,0) + u(x,T) = g(x)$ is prescribed. We determine bounds on an energy expression by means of differential inequalities and derive pointwise bounds for the solution and its gradient by use of a parabolic maximum principle. (Received June 27, 2008)