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Philip W Schaefer* (schaefer@math.utk.edu), Department of Mathematics, University of Tennessee, Knoxville, TN 37916. *Lower bounds for blow-up time in some porous medium problems.*

We consider an initial-boundary value problem for a nonlinear porous medium equation in a bounded smooth domain in Euclidean 3-space. We use a first order differential inequality technique on a suitably defined auxiliary function to determine a lower bound on blow-up time if blow-up occurs. (Received September 08, 2007)