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**Luan Hoang** ([luan.hoang@ttu.edu](mailto:luan.hoang@ttu.edu)), Box 41042, Lubbock, TX 79409. *Global estimates for  
generalized Forchheimer flows of slightly compressible fluids in porous media.*

. In this article, we consider the generalized Forchheimer flows for slightly compressible fluids and study the initial boundary value problem for the resulting degenerate parabolic equation for pressure with the time-dependent Dirichlet boundary condition. The estimates up to the boundary and for all time are derived for the  $L^\infty$ -norm of the pressure, its gradient and time derivative. Large-time estimates are established to be independent of the initial data. Thanks to the special structure of the pressure's nonlinear equation, the global gradient estimates are obtained in a relatively simple way, avoiding complicated calculations and a prior requirement of Hölder estimates. (Received August 21, 2015)