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Laxmi P. Paudel* (laxmipaudel@my.unt.edu), 1701 west Oak Apt #210, Denton, TX 76201,
and **Joseph Iaia**. *Title: Traveling Wave Solutions of the Porous Medium Equation*. Preliminary
report.

We reduce the Porous Medium Equation (PME) into an ordinary differential equation, and prove the existence of its one parameter family of solutions. We prove that the solutions are stable under a suitable class of perturbations. In this paper, we have successfully extended the various results that J. Iaia and S. Betelu got in two dimensional PME to three dimensions. (Received September 24, 2012)