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Laxmi P. Paudel* (laxmi.paudel@asurams.edu), 1447 US Highway 19 South, Unit 1-C, Leesburg, GA 31763, and **Joseph Iaia**. *Traveling Wave Solutions of the Porous Medium Equation*. Preliminary report.

We reduce the Porous Medium Equation (PME) into an ordinary differential equation (ODE), and prove the existence of its solutions. We prove that the one parameter family of our solutions are stable under a suitable class of perturbations. This work includes extension of the various results, J. Iaia and S. Betelu got in two dimensional Porous Medium Equation, to three dimensions. (Received January 15, 2016)