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Aleksey S Telyakovskiy* (alekseyt@unr.edu), Department of Mathematics and Statistics, University of Nevada, Reno, 1664 N. Virginia Street, Reno, NV 89557. *Approximate solution to the generalized Boussinesq equation*. Preliminary report.

The generalized Boussinesq equation is a nonlinear diffusion equation that appears in hydrologic applications. In this talk we will show how a family of approximate solutions can be constructed for this equation after similarity transformation reduced the original nonlinear PDE to a nonlinear ODE. Approximate solutions capture the key behavior of the true solutions. Moreover, they are accurate and compare well against highly accurate numerical solutions. (Received March 09, 2021)