1077-O1-1862   **Donald C. Armstead** and **Michael A. Karls*** (`mkarls@bsu.edu`), Department of Mathematical Sciences, Ball State University, Muncie, IN 47306. *Does the Wave Equation Really Work?*

The wave equation is a classic partial differential equation that one encounters in an introductory course on boundary value problems or mathematical physics, which can be used to describe the vertical displacement of a vibrating string. Using a video camera and physics demonstration software to record displacement data from a vibrating string or spring, we verify the wave equation and a modified version that incorporates damping. (Received September 21, 2011)