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1003-76-1303 **Pedro M. Jordan*** (pjordan@nrlssc.navy.mil), Naval Research Laboratory, Code 7181,
Stennis Space Center, MS 39529. *Nonlinear wave phenomena in continuum mechanics: Some
recent findings.*

We explore some recent topics of interest in nonlinear wave propagation. We do so in the context of problems from continuum mechanics that involve shear (or transverse) waves and compressional (or longitudinal) waves. Specifically, the following two topics will be considered: (1) The apparent formation of a vortex sheet in a nonlinear soft tissue model and (2) The growth/decay of nonlinear acoustic acceleration waves in Darcy-type porous media. Employing both analytical and numerical techniques, we carry out this investigation with the purpose of gaining a better understanding of, and deeper insight into, the physical phenomena represented in the mathematical models. Work supported by ONR/NRL funding (PE 061153N). (Received October 04, 2004)