

1143-35-293

Maarten de Hoop, Gunther Uhlmann and Yiran Wang* (yrwang.math@gmail.com).

Nonlinear interaction of waves in elastodynamics and inverse problems.

We consider nonlinear elastic wave equations generalizing Gol'dberg's five constants model. We analyze the nonlinear interaction of two distorted plane waves and characterize the possible nonlinear responses. Using the boundary measurements of the nonlinear responses, we solve the inverse problem of determining elastic parameters from the displacement-to-traction map. (Received August 17, 2018)