1139-35-123 **Ngoc Do*** (dothanhngocctsp@math.arizona.edu), dothanhngocctsp@math.arizona.edu, and **Leonid Kunyansky**. *Inverse source problem for the wave equation with reduced data: an explicit solution.*

The inverse source problem for the standard wave equation is a mathematical foundation for several promising emerging modalities of medical imaging. I will concentrate on the theoretical and algorithmic aspects of this problem. Of special interest here are theoretically exact inversion formulas, explicitly expressing solution of the problem in terms of the measured data. Practically all such formulas require data to be taken on a surface completely surrounding the object under investigation, which, in many cases, cannot be done in practice. The alternative approach we present yields explicit, theoretically exact reconstruction from data measured on an open surface. This is the first result of this kind. Numerical simulations illustrating the work of the method will be also presented. (Received February 05, 2018)