

Inversion of spherical means and the wave equation

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Abstract

Recently inversion formulas of filtered backprojection type for the problem of recovering a function in a ball from its spherical means over spheres centered on the boundary have been found in all dimensions. These imply inversion formulas for the recovery of the initial data of the free space, constant speed, wave equation for initial data of the form $(f, 0)$ supported in a ball from the trace of the solution on the boundary of the ball. This talk will give a presentation of these results, along with a discussion of their relation to other work and to some open problems.