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Testing of the inverse problem with constant-background in the presence of damping in a single layer

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Abstract

A one-dimensional inverse problem in a medium with constant-background properties is studied in the presence of damping. The inversion formula is obtained using Born's approximation and high frequency assumption. This formula is tested for a medium which contains a layer giving rise to a single step-like change in the wavespeed and damping parameters. The effects of background damping and of bandlimited data are also discussed by taking different values of background damping and bandlimiting.

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