CONVEXIFICATION METHOD FOR A 1-D COEFFICIENT INVERSE PROBLEM WITH EXPERIMENTAL DATA

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We present a numerical method for a 1-D coefficient inverse scattering problem with multi-frequency data. This method is based on the construction of a cost functional with a Carleman weight function (CWF). The presence of the CWF makes this functional strictly convex on any a priori chosen ball with the center at $\{0\}$ in an appropriate Hilbert space.

Numerical tests are conducted for both computationally simulated and experimental data.