

Stability estimates for some inverse problems for ultrahyperbolic Schrödinger equations

Fikret Gölgeleyen and Özlem Kaytmaz

Department of Mathematics, Bülent Ecevit University, 67100, Zonguldak

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Abstract

In this work, we obtain a global Carleman estimate for an ultrahyperbolic Schrödinger equation which arises in several applications [2, 7]. Based on the idea by Imanuvilov and Yamamoto [3], we prove Hölder stability for the inverse problem of determining a coefficient or a source term in the ultrahyperbolic Schrödinger equation by some lateral boundary data. To our best knowledge, there is no result available in the mathematical literature related to the inverse problems for these equations. As for the classical Schrödinger equation, we refer to Baudouin and Puel [1], Lasiecka et al. [4], Mercado et al. [5], and Yuan and Yamamoto [6].

References

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