SOME INVERSE PROBLEMS FOR DISPERSIVE EQUATIONS

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Resumo/Abstract:
We will present the inverse problem of retrieving the principal coefficient in a Korteweg-de Vries (KdV) equation from boundary measurements of a single solution. We prove Lipschitz stability, which is obtained using a new global Carleman estimate for the linearized KdV equation, and the Bukhgeim-Klibanov method. We will compare this result with related inverse problems concerning hyperbolic and other dispersive equations.