
MS21: Inverse Problems III

Carleman Formulas and Inverse Problems

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We focus on the relationship between the Carleman formula and the reconstruction of the two-dimensional refractive index in the Helmholtz equation.

Solving the Camassa-Holm Equation by Inverse Scattering

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The Camassa-Holm equation is an integrable system with an associated Lax pair. Therefore it is possible to solve it by an inverse scattering transform. However, the scattering problem is for the left-definite equation $-y'' + 1/4y = \lambda wy$ where w may be of varying sign. The emphasis of the talk lies on the corresponding scattering and inverse scattering problem.

This is joint work with Malcolm Brown and Christer Bennewitz.