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On the inverse spectral method for solving nonlinear evolution equations

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Abstract

In this talk, we construct solutions of the finite Langmuir lattice by use of the inverse spectral method. The corresponding Lax operator is a finite Jacobi matrix (tri-diagonal symmetric matrix) with zero diagonal. The concept of spectral data for finite Jacobi matrices is introduced and a complete solution of the inverse spectral problem for zero-diagonal Jacobi matrices is presented.