Evolution of Weyl functions and integrable nonlinear equations in a semi-strip.

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Abstract. Almost all initial-boundary value problems for integrable nonlinear equations, which one can solve, are overdetermined. However, in some interesting cases solutions may be uniquely recovered in a semi-strip using only initial or boundary conditions (via evolution of Weyl functions). Evolution of the Weyl functions is also used in order to prove uniqueness of solutions or for constructing blow up solutions.