



Inverse scattering transform for the Degasperis-Procesi equation: a Riemann-Hilbert approach

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We present the inverse scattering transform approach to the Cauchy problem on the line for the Degasperis-Procesi equation $u_{txx} - 2u_x + 2u_x u_{xx} + uu_{xxx} = 0$ in the form of an associated Riemann-Hilbert problem. This approach allows us to give a representation of the solution to the Cauchy problem, which can be efficiently used in studying its long-time behavior.

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