





Some notes on numerical methods for RH problems

The most common way to treat a RH problem numerically is to first convert it to an equivalent singular integral equation.

The singular integral equation is discretized. See

S Olver. A general framework for solving Riemann-Hilbert problems numerically. Numer. Math., 122(2):305–340, 2012

for a Chebyshev collocation method.

See also:

T T and S Olver. Riemann–Hilbert Problems, Their Numerical Solution and the Computation of Nonlinear
SIAM, Philadelphia, PA, 2016

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A rational function approach to inverse scattering