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On the convergence of a quadrature-difference method for complete linear singular integro-differential equations on an interval

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Abstract

A quadrature-difference method for solving singular integro-differential equations with a Cauchy kernel is proposed and justified. The solvability of such equations is proved, and the rate of convergence of the approximate solution to the exact one is estimated in the norm of the space of grid functions quadratically summable with a weight.