# Inversion of the Riemann-Liouville Integral Operator and Solving Abel Type Equations

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## Abstract

The range of the Riemann-Liouville operator is described and a formula for the inverse operator is presented – it is a kind of nonstandard integral operators. As a consequence a description of the class of fractionally differentiable functions (in the sense of Riemann-Liouville and Caputo) is given, as well as the a criterium of the solvability of of the Abel type equations is presented. Spline collocation is examined.