

INNER BOUNDARY VALUE PROBLEM FOR AN ORDINARY DIFFERENTIAL EQUATION WITH THE DZHRBASHYAN – NERSESYAN OPERATOR

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The paper considers an ordinary differential equation with the Dzhrbashyan – Nersesyan fractional differentiation operator. For the equation under study, the inner-boundary value problem with local shift has been solved. The local shift condition associates the values of the sought-for solution at the ends of the considered interval with the values at the internal points. Under the solvability condition, an explicit representation of the solution to the original problem is found, expressed in terms of the special Mittag - Leffler function. The condition of unique solvability is found.

Keywords: inner boundary value problem, operator of fractional differentiation, Dzhrbashyan – Nersesyan operator, Mittag – Leffler function.

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