Solvability of a nonlocal problem by a novel concept of fundamental function

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Cauchy function, Green function and Riemann function are the several of the fundamental functions used frequently in the expression of a fundamental solution in the literature. In order to construct such functions, various ideas can be considered. The lesser-known one of these ideas exists in the papers [1, 2, 3, 4] by Seyidali S. Akhiev. Inspired by these papers, the solvability of some problems [5, 6, 7, 8, 9, 10] has been investigated. In this talk, a novel kind of adjoint problem for a generally nonlocal problem, and also Green's functional via the solvability of that adjoint problem are constructed [11]. By means of the obtained Green's functional, an integral representation for the solution of the nonlocal problem is established.

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