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An Analogue of the Jordan–Dirichlet Theorem for the Integral Operator with Kernel Having Jumps on Broken Lines

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In this paper the sufficient conditions (conditions such as Jordan–Dirichlet) expansion function $f(x)$ in a uniformly convergent series of eigenfunctions and associated functions of the integral operator whose kernel is suffering jumps on the sides of the square, inscribed in the unit square. As is known, this expansion requires to $f(x)$ is continuous and belong to the closure of the integral values operator. It turns out that if $f(x)$ also is a function of bounded variation, these conditions are also sufficient.

Key words: Jordan–Dirichlet theorem, resolvent, eigenvalues, eigenfunctions and associated functions.

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