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Research Article

Helmholtz and Diffusion Equations Associated with Local Fractional Derivative Operators

Involving the Cantorian and Cantor-Type Cylindrical Coordinates

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Abstract

The main object of this paper is to investigate the Helmholtz and diffusion equations on the Cantor sets involving local fractional derivative operators. The Cantor-type cylindrical-coordinate method is applied to handle the corresponding local fractional differential equations. Two illustrative examples for the Helmholtz and diffusion equations on the Cantor sets are shown by making use of the Cantorian and Cantor-type cylindrical coordinates.