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[About this Journal](#) [Submit a Manuscript](#) [Table of Contents](#)

Journal Menu

- [About this Journal](#) ·
- [Abstracting and Indexing](#) ·
- [Advance Access](#) ·
- [Aims and Scope](#) ·
- [Article Processing Charges](#) ·
- [Articles in Press](#) ·
- [Author Guidelines](#) ·
- [Bibliographic Information](#) ·
- [Citations to this Journal](#) ·
- [Contact Information](#) ·
- [Editorial Board](#) ·
- [Editorial Workflow](#) ·
- [Free eTOC Alerts](#) ·
- [Publication Ethics](#) ·
- [Reviewers Acknowledgment](#) ·
- [Submit a Manuscript](#) ·
- [Subscription Information](#) ·
- [Table of Contents](#)

- [Open Special Issues](#) ·
- [Published Special Issues](#) ·
- [Special Issue Guidelines](#)

- [Abstract](#)
- [Full-Text PDF](#)
- [Full-Text HTML](#)
- [Full-Text ePUB](#)
- [Full-Text XML](#)
- [Linked References](#)
- [Citations to this Article](#)
- [How to Cite this Article](#)
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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.