

Fractional wave equation with a frictional memory kernel of multivariate Mittag-Leffler type

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In this paper, we investigate analytical solution of a fractional wave equation involving Caputo time fractional derivative and fractional memory kernel with multivariate Mittag-Leffler type. This problem includes the recently solved problems containing effects of a fractional friction with power-law memory kernel on string vibrations [1] and fractional wave equation with a frictional memory kernel of Mittag-Leffler type [2]. Also, we exhibit some illustrative examples.

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References

- [1] Ž. Tomovski, T. Sandev, *Effects of a fractional friction with power-law memory kernel on string vibrations*, *Comput. Math. Appl.* **62** (2011), 1554–1561.
- [2] Ž. Tomovski, T. Sandev, *Fractional wave equation with a frictional memory kernel of Mittag-Leffler type*, *Comput. Math. Appl.* **218** (2012), 10022–10031.