

# New results for higher-order Hadamard-type fractional differential equations on the half-line

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## Abstract

The purpose of this paper is to analyze a new kind of Hadamard fractional boundary value problem combining integral boundary condition and multipoint fractional integral boundary condition on an infinite interval. By the help of the Bai-Ge's fixed point theorem, multiplicity results of positive solutions are derived for the Hadamard fractional boundary value problem. In the end, to illustrative the main result, an example is also presented.

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