

On simple iterative fractional order differential equations

ABSTRACT

In this paper, the simple fractional iterative differential equation will be the focus of study $D^\alpha v(s) = v_n(s)$, $v(s_0) = a$, where $s_0, v_0 \in I = [0, b]$, and $0 < \alpha < 1$. One class of the iterative fractional differential equations is the simple iterative fractional differential equation. In this paper, the local existence and uniqueness results for the fractional order of degree n of simple iterative fractional differential equation are proven and the solutions found by using power series.

Keyword: Fractional iterative differential equations; Mathematical biological model