

Quasilinearization Method for RL Fractional Systems

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Abstract: We construct a generalized quasilinearization method to approximate the unique solution of the nonlinear Riemann-Liouville (RL) fractional system of equations of order q , where $0 < q < 1$. Monotone sequences of linear RL systems are constructed from lower and upper solutions, where the t^{1-q} weighted sequences converge uniformly and quadratically to the weighted unique solution of the system.