

عنوان مقاله:

A one-step algorithm for strongly non-linear full fractional duffing equations

محل انتشار:

مجله روشهای محاسباتی برای معادلات دیفرانسیل، دوره 12، شماره 1 (سال: 1403)

تعداد صفحات اصل مقاله: 19

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خلاصه مقاله:

In the current study, a one-step numerical algorithm is presented to solve strongly non-linear full fractional duffing equations. A new fractional-order operational matrix of integration via quasi-hat functions (QHF) is introduced. Utilizing the operational matrices of QHF, the main problem will be transformed into a number of univariate polynomial equations. Absolute errors of the results in approximations and convergence analysis are addressed. Ultimately, five examples are provided to illustrate the capabilities of this algorithm. The numerical results are illustrated in some Tables and Figures, for different values of the parameters α and β .

کلمات کلیدی:

Fractional Duffing differential equations, Numerical algorithms, Strongly nonlinear, Quasi-hat function, Fractional operational matrix

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