

Solutions of the fractional Chafee-Infante equation by various analytical methods

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The paper proposes an exhaustive investigation of how different analytical methods can be applied to solve nonlinear fractional differential equations. The considered dynamical system is described by the Chafee-Infante fractional equation. We will review the approaches that have been used previously, with a focus on two general approaches introduced quite recently by our group. One of them is known as the attached flow method, while the second is based on the so-called “optimal choice” that does not impose an a priori choice of the form of the solutions nor of the auxiliary equation.

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