

The ADM method for solving the modified kawahara equation with fractional spatial and temporal derivatives

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Abstract

In this paper, by introducing the fractional derivative in the sense of Caputo, we apply the Adomian decomposition method (ADM) to solve the modified Kawahara equation with fractional derivatives. Two cases of special interest such as the temporal-fractional modified Kawahara equation and the spatial-fractional modified Kawahara equation are discussed in details. Further, we compare the obtained results with those obtained for integer derivatives.
