An operative approach to solve Homogeneous differential–anti-differential equations

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Abstract

In this work, we extend the theory of differential equations through a new way. To do this, we give an idea of differential–anti-differential equations and dene ordinary as well as partial derivative{anti-derivative operator with a base function to solve several types of such equations. The operator is applied to construct several Auxiliary equations for a Homogeneous differential–anti-differential equations. The roots, of the Auxiliary equations, are then inserted in the base function to get exact solutions of the corresponding equations. The process can be used to solve both Homogeneous linear and non-linear ordinary as well as partial differential–anti- differential equations. The technique has special property that it can solve several different types of differential equations including continuity, Heat, Wave, Laplace, Schrodinger, Euler, Blasius differential equations.

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