

Recent Progress in the Analytical and Numerical Treatment of Partial Differential Equations of Fractional Order

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Abstract: Analytical and numerical methods for the solution of fractional partial differential equations made enormous progress during the last 10 years because many complex physical and biological systems can be represented more accurately through fractional derivative formulation. In this talk we report on recent research work on the develop of new analytical and numerical methods for the solution of partial differential equations of fractional order and explain their respective strengths and weaknesses. Several numerical examples are given to demonstrate the effectiveness and weaknesses of the present methods.