

Application of Pade Approximation to Problems of Fluid Dynamics

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Abstract

It is well known that nonlinear sequence transforms are very effective accelerators of convergence on monotone and alternating sequences. A given acceleration method refines its approximation procedure by progressively absorbing a greater number of terms of a sequence in the transform it employs. In this work the necessary mathematical formulation for calculation of Pade approximant is performed and routine for its numerical evaluation is developed. The approximation is then applied to two concrete problems of fluid dynamics and merits and efficiency of this approach relative to other approaches to the solution of the problem is discussed.