

# A Semi-Analytical Approach to Solve a Flow Model

Haldun Alpaslan PEKER

Faculty of Science, Selcuk University, Campus, Selcuklu  
42130 Konya, Turkey  
pekera@gmail.com

## Abstract

Nonlinear structure of boundary layer flow models which are one of the mostly encountered physical models in nature attracts the interest of mathematicians to analyze the power and accuracy of the numerical methods. The aspire of this study is to present a semi-analytical solution to a boundary layer flow model by using a numerical method.

**Keywords:** Boundary layer flow, Heat transfer, Padé approximant

## References

1. Baker, G.A., Graves-Morris, P.: Padé approximants, Cambridge University Press, Cambridge, 1996.
2. Boyd, J.: Padé approximant algorithm for solving nonlinear ordinary differential equation boundary value problems on an unbounded domain, *Comput. Phys.* 11.3 (1997) 299–303.
3. Na, T.Y., Habib, I.S.: Solution of the natural convection problem by parameter differentiation, *Int. J. Heat Mass Transfer* 17 (1974) 457–459.