Computational dynamics of hydromagnetic stagnation flow towards a stretching sheet

Abstract
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This paper investigates the hydromagnetic stagnation flow of an incompressible viscous, electrically conducting fluid, towards a stretching sheet in the presence of axially increasing free stream velocity. The newton-Raphson shooting method, along with fourth-order Runge-Kutta integration algorithm, are employed to tackle the third order, nonlinear boundary layer equation governing the problem. The variational iteration method (VIM), coupled with Padé technique is also applied for a reliable treatment of the problem. The study shows that the series solution is obtained without restrictions on the nonlinearity behavio. The solutions are compared with the other available results in the literature, and a good agreement is found.