عنوان مقاله:

Comments on the paper "Nonlinear Convective Flow of Maxwell Fluid over a Slendering Stretching Sheet with Heat Source/Sink, Mocherla Gayatri, Konda Jayaramireddy, Macherla Jayachandra Babu, J. Appl. Comput. Mech., ۸(۱), ۲۰۲۲, ۶۰-۷۰"

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خلاصه مقاله:

Exact solutions for non-Newtonian fluids are rare, particularly for Maxwell fluids [۱], such solutions do not exist. Generally, in non-Newtonian fluids, the relation which connects shear stress and shear rate is non-linear and the constitutive relation forms equations of non-Newtonian fluids which are higher order and complex as compared to Navier-Stokes equation governing the flow of viscous fluid. Due to this high nonlinearity, closed form solutions for non-Newtonian fluid flows are not possible for the problems with practical interest. More exactly, when such fluids problems are tackled via Laplace transform technique, often the inverse Laplace transforms of the transformed functions do not exist. Due to this difficulty, the researchers are usually using numerical procedures for finding the inverse Laplace transform. However, those solutions are not purely regarded as exact solutions. Owing the great diversity in the physical structure of non-Newtonian fluids, researchers have proposed a variety of mathematical models to understand the dynamics of such fluids. Mostly, these models fall in the subcategory of differential type fluids or rate types fluids. However, a keen interest of the researchers is seen in studying rate types fluids due to the fact that they incorporate both the elastic and memory effects together. The present comments concern some doubtful results included in the above paper [۲].

کلمات کلیدی:
Convective flow, Maxwell fluid, slandering stretching sheet

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