

The present research study deals with the steady flow and heat transfer of a viscoelastic fluid over a stretching surface in two lateral directions with a magnetic field applied normal to the surface. The fluid far away from the surface is ambient and the motion in the flow field is caused by stretching surface in two directions. This result is a three-dimensional flow instead of two-dimensional as considered by many authors. Self-similar solutions are obtained numerically. For some particular cases, closed form analytical solutions are also obtained. The numerical calculations show that the skin friction coefficients in x - and y -directions and the heat transfer coefficient decrease with the increasing elastic parameter, but they increase with the stretching parameter. The heat transfer coefficient for the constant heat flux case is higher than that of the constant wall temperature case.