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| Abstract |  |
| Abstract In the influence of fluid buoyancy forces, the ferrofluid combined convective flow in porous curvilinear surfaces is studied with thermal generation/absorption effect. In the ambient flow conditions, the pressure gradient terms and ferrofluid buoyancy forces are replaced by the free steam velocity . The governing equations of the present problem are converted to ODEs by introducing non-dimensional functions and similarity variable. Boundary conditions of first derivative of velocities and temperature of our problem were constructed by the initial value problem, also the unknown initial conditions are found by shooting methods, and then a set of ODEs is solved numerically by the integration scheme of the six-order Range-Kutta method. The results of the solutions are presented graphically of velocity and thermal profiles with the help of MATLAB for different values of suction parameter  and heat absorption parameter . Finally, the comparisons of the results highlight the justification of the numerical calculation accepted in the presence study. The problems in curvilinear surface study of boundary layer flow are complicated in fluid mechanics with applications of natural science and engineering. | |