

## **Marangoni mixed convection boundary layer flow with suction and injection**

### **Abstract**

The mixed Marangoni convection boundary layer flow over a permeable surface in the presence of thermal-diffusion and diffusion-thermo effects is investigated. The governing partial differential equations are converted into a set of nonlinear ordinary differential equations using similarity transformations and then solved numerically using the Runge-Kutta-Fehlberg method. The effects of the governing parameters namely buoyancy or mixed convection parameter, suction/injection parameter, Dufour and Soret numbers on the velocity, temperature and concentration fields are presented graphically and analyzed. It is found that the surface velocity increases with the increasing of the mixed convection parameter.

### **Keywords**

Boundary layer; Injection; Marangoni mixed convection; Suction