

## Effect of internal heat generation on Benard-Marangoni convection in micropolar fluid with feedback control

### ABSTRACT

The effect of uniform distribution of internal heat generation on the linear stability analysis of the Benard-Marangoni convection in an Eringen's micropolar fluids with feedback control is investigated theoretically. The upper free surface is assumed to be non-deformable and the lower boundary is taken to be rigid and isothermal with fixed temperature and span-vanishing boundaries. The eigenvalue is solved numerically using the Galerkin method. The influence of the internal heat generation;  $Q$  and feedback control;  $K$  in micropolar fluids with various parameters on the onset of stationary convection has been analysed.

**Keyword:** Benard-Marangoni convection; Fluid dynamics