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Finite-element analysis of fully developed mixed convection through a vertical channel in the presence of heat generation/absorption with a first-order chemical reaction

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Abstract
Fully developed Mixed Convection through vertical channel in the presence of heat generation/absorption with first order chemical reaction is analyzed. The thermal boundary conditions are isothermal-isothermal for left and right walls of the channel and kept at different temperatures.The effect of thermal buoyancy parameter, concentration buoyancy parameter and heat generation/absorption parameter are studied. Also the flow field with the presence of first order chemical reaction is particularly analyzed. The governing equations are solved using finite element method.Velocity, temperature and concentration profiles are investigated for different values of the flow parameters. © 2018 Trans Tech Publications, Switzerland.

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