

## ENTROPY GENERATION ANALYSIS DUE TO HEAT AND MASS TRANSFER WITHIN A CHANNEL

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**ABSTRACT** Irreversible entropy generation for combined forced convection and heat and mass transfer between two parallel plates is investigated in the present paper. A particular attention is paid to radiative heat transfer. A developed numerical model, based on the finite volume technique is used for the solutions of the governing differential equations. The “Ray Tracing” method is applied through the S4 quadrature to solve the radiative transfer equation and radiative entropy generation. However, the “Statistical Narrow Band Correlated-k (SNBCK)” model is employed to calculate the radiative properties of non-gray gas confined between the two parallel plates. The entropy generation is obtained as a function of the temperature and concentration gradients and some physical properties of water vapour. The effect of several thermal conditions are analysed in this paper.