

18/2020



ONLINE INSPERM'S WEEKLY SEMINAR

DATE : 26 JUNE 2020 | TIME : 3.15 PM (MALAYSIA)
MEDIUM : VIDEO CONFERENCE (GOOGLE MEET)

 <http://meet.google.com/fgo-takr-fdh>



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**Topic : Double Diffusive Magnetohydrodynamics Casson
Fluid Flow over a Shrinking Sheet with Soret and Dufour Effects**

ABSTRACT

The mathematical formulation of double diffusive mixed convection boundary layer flow in magnetohydrodynamics Casson fluid caused by a shrinking sheet is developed. This model is subjected by the presence of Soret and Dufour effects. The variations of shrinking velocity, wall temperature and wall concentration are assumed to have exponential function forms. Non-similarity transformation is applied on the governing basic equations (flow, momentum, energy and concentration equations) before they are solved numerically using bvp4c MATLAB program. The numerical results of velocity, temperature and concentration profiles, together with skin friction coefficient, local Nusselt number and local Sherwood number are presented in the form of tables and graphs. On the other hand, stability analysis is performed to select the stable solution due to the occurrence of dual numerical solutions.

Keywords: Boundary layer flow, heat and mass transfer, Soret and Dufour effects, dual solutions, magnetohydrodynamics, stability analysis.

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