

**EFFECT OF MIXED CONVECTION IN MHD BOUNDARY
LAYER FLOW OVER EXPONENTIALLY STRETCHING SHEET**

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ABSTRACT

The study of boundary layer over an exponentially stretching sheet has gained importance in the engineering field over the year. The MHD boundary flow can be applied in various sector such as hydroelectric power plants, medicine and astrophysics. The addition of parameters such as magnetic parameter, thermal radiation parameter and mixed convection parameter has been proved to have significant effect on the momentum profile, temperature profile and concentration profile. This study considers the effect of mixed convection in MHD boundary layer flow over exponentially stretching sheet in double stratification. The governing partial differential equations are transformed into ordinary differential equations by applying the similarity substitution. The Runge-Kutta method with shooting technique in Maple software was used to solve the equations. The effect of mixed convection parameter, magnetic parameter, porosity parameter and Prandtl number are presented in graph and discussed. Based on the result obtained, it is found that the mixed convection caused the momentum boundary layer thickness to decrease. Meanwhile the thermal boundary layer thickness and concentration boundary layer increases with the increase of mixed convection parameter.

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TABLE OF CONTENT

DECLARATION BY SUPERVISOR	i
DECLARATION BY CANDIDATES	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENT	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
1.0 INTRODUCTION OF RESEARCH	1
1.1 Introduction	1
1.2 Background of Study	1
1.3 Problem Statement	3
1.4 Objectives	4
1.5 Significance of The Project	4
1.6 Scope of The Project	5
1.7 Project Benefits	5
1.8 Definition of Terms and Concepts	5
1.9 Organization of Report	6
2.0 LITERATURE REVIEW	7
2.1 Introduction	7
2.2 Literature Review	7
2.2.1 Magnetohydrodynamic (MHD)	7
2.2.2 Mixed Convection	9
2.2.3 Exponentially Stretching Sheet	11
2.2.4 Double Stratification	12
2.3 Conclusion	13

3.0	METHODOLOGY	14
3.1	Introduction	14
3.2	Research Steps.....	14
3.2.1	Step 1: Topic Selection	15
3.2.2	Step 2: Understanding the Related Governing and Boundary Condition.....	16
3.2.3	Step 3: Incorporating the Mixed Convection Effect	17
3.2.4	Step 4: Transformation of Partial Differential Equations (PDE) to Ordinary Differential Equations (ODE).....	18
3.2.5	Step 5: Numerical Method.....	20
3.2.6	Step 6: Plotting the Graph.....	20
3.2.7	Step 7: Analyze the result.	20
3.3	Conclusion.....	21
4.0	IMPLEMENTATION.....	22
4.1	Introduction	22
4.2	Transformation of PDE to ODE.....	22
4.2.1	Continuity Equation.....	31
4.2.2	Momentum Equation	32
4.2.3	Energy equation	34
4.2.4	Concentration equation	35
4.2.5	Boundary conditions	37
4.2.6	Skin Friction Coefficient (Cf).....	40
4.2.7	Local Nusselt Number (Nu).....	42
4.2.8	Local Sherwood Number Sh	44
4.3	Conclusion.....	46
5.0	RESULT AND DISCUSSION.....	47
5.1	Introduction	47