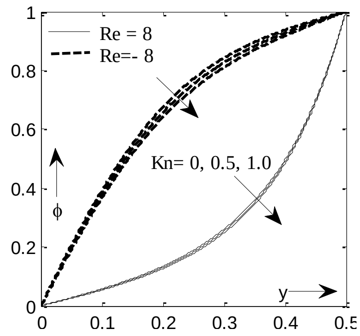

Figure 19. Impact Kn on ϕ profile

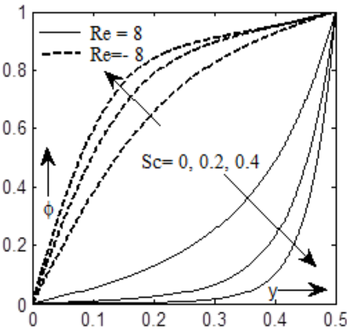

Figure 20. Impact Sc on ϕ profile

Table 1. Numerical values of local Nusselt number for the suction case. When $\alpha = \pi/2$

Re	M	Kp	De	R	Pr	Ec	Hayat at al. [2]	Present study
0	1.0	1.0	1.0	0.5	0.5	0.5	1.500753	1.5007536
5							1.635831	1.63583198
10							1.786391	1.78639163
20							2.182340	2.18234023
5	0.0						1.632181	1.63218198
	2						1.651119	1.65111989
	4						1.701858	1.70185866
	8						1.835777	1.83577732
	1	0.0					1.634007	1.63400722
		4					1.643906	1.64390633
		8					1.659531	1.65953196
		16					1.701858	1.70185828
		1	0.0				1.632262	1.63226296
			1.0				1.635831	1.63583163
			1.5				1.639995	1.63999589
			2.0				1.647842	1.64784212
			1.0	0.0			1.721740	1.72174023
				0.3			1.659672	1.65967234
				0.6			1.626706	1.62670643
				0.9			1.606267	1.60626756
				0.5	0.2		0.625678	0.62567865
					0.4		1.289103	1.28910376
					0.6		1.993054	1.99305428
					0.8		2.740532	2.74053239
					0.5	0.5	1.635831	1.63583151
						1.0	3.271662	3.27166284
						1.5	4.907493	4.90749373
						2.0	6.543324	6.54332462

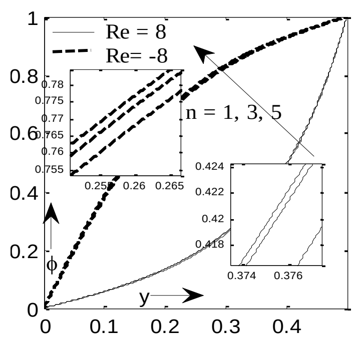

Figure 21. Impact *n* on ϕ profile

5. CONCLUSION

Radiative boundary-layer flow of a MHD Maxwell fluid with non-linear chemical reaction, heat source, thermophoretic effect embedded in porous medium is investigated in a permeable channel. The nonlinear PDEs are convert into an ODEs and solved numerically using the bvp4c solver. Our computations have indicated that:

- Increase in M, Kp enhances *f* profile
- Increase in M rising *f'* for suction case and *f'* suppress for injection case.
- Increase in Q and Ec enhances the θ profile.
- Increase in τ_1 and Kn increases the ϕ profile.
- Increase in Pr reduces the θ profile in injection condition and rising θ profile in suction condition.

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NOMENCLATURE

R	radiation parameter
V	Suction /injection parameter
Re	Reynold number
De	Deborah number
k	thermal conductivity
Pr	Prandtl number
Q	Heat source
M	Magnetic field parameter
Sc	Schmit number
Kn	Chemical reaction
n	Order of Chemical reaction

Greek symbols

θ	Dimensionless temperature
ϕ	Dimensionless concentration.
α	Inclined angle of magnetic field
ρ	Fluid density