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Figure 7.2.3: Secondary Velocity w for different values of y and m at $\gamma = 0.5, M = 5, k_1 = 1.5, k =$ 195 0.8, Pr = 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4Primary Velocity u for different values of y and y at $m = 5, M = 5, k_1 = 1.5, k = 0.8, Pr =$ 196 **Figure 7.2.4:** 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4**Figure 7.2.5:** Secondary Velocity w for different values of y and γ at $m = 5, M = 5, k_1 = 1.5, k = 1.5, k_2 = 1.5, k_3 = 1.5, k_4 = 1.5, k_5 =$ 196 0.8, Pr = 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4**Figure 7.2.6:** Primary Velocity *u* for different values of *y* and *M* at $\gamma = 0.5, m = 5, k_1 = 1.5, k = 1.5$ 197 0.8, Pr = 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4Secondary Velocity w for different values of y and M at $\gamma = 0.5, M = 5, k_1 = 1.5, k =$ 197 **Figure 7.2.7:** 0.8, Pr = 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4Primary Velocity u for different values of y and k at $\gamma = 0.5$, M = 5, $k_1 = 1.5$, m = 5, Pr = 5**Figure 7.2.8:** 198 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4**Figure 7.2.9:** Secondary Velocity w for different values of y and k at $\gamma = 0.5, M = 5, k_1 = 1.5, m =$ 198 5, Pr = 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4Primary Velocity u for different values of y and k_1 at $\gamma = 0.5$, M = 5, k = 0.8, m = 5, Pr =199 **Figure 7.2.10:** 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4Secondary Velocity w for different values of y and k_1 at $\gamma = 0.5, M = 5, k = 0.8, m =$ Figure 7.2.11: 199 5, Pr = 7, Sc = 6.2, H = 5, Gm = 10, Gr = 5, Nr = 5, Sr = 3, Kr = 5 and t = 0.4200 **Figure 7.2.12:** Temperature profiles θ for different values of y and H at Pr = 7, Nr = 5 and t = 0.4200 Temperature profile θ for different values of y and Nr at Pr = 7, H = 5 and t = 0.4Figure 7.2.13: Figure 7.2.14: Primary Velocity u for different values of y and Sr at y = 0.5, M = 5, k = 0.8, m = 5, Pr =201 7, Sc = 6.2, $k_1 = 1.5$, Gm = 10, Gr = 5, H = 5, Nr = 5, Kr = 5 and t = 0.4Secondary Velocity w for different values of y and Sr at $\gamma = 0.5, M = 5, k = 0.8, m =$ Figure 7.2.15: 201 5, Pr = 7, Sc = 6.2, $k_1 = 1.5$, Gm = 10, Gr = 5, H = 5, Nr = 5, Kr = 5 and t = 0.4202 Concentration profile C for different values of y and Sr at Sc = 6.2, Kr = 5 and t = 0.4Figure 7.2.16: Figure 7.2.17: Concentration profile C for different values of y and Kr at Sc = 6.2, Sr = 3 and t = 0.4202