Fig. 1 Variation of the dimensionless velocity distribution along the x-axis with t for different values of permeability parameter $k$ ($U_0=V_0=2$; $m_0=m_1=m_2=2$; $y=0$, $m=0.5$, $M=0.5$, $R=0.5$, $\lambda=50$)

Fig. 2 Variation of the dimensionless velocity distribution along the y-axis with t for different values of permeability parameter $k$ ($U_0=V_0=2$; $m_0=m_1=m_2=2$; $y=0$, $m=0.5$, $M=0.5$, $R=0.5$, $\lambda=50$)

Fig. 3 Variation of the dimensionless velocity distribution along the x-axis with t for different values of Hall parameter m ($U_0=V_0=2$; $y=0$, $m_0=m_1=m_2=2$; $k=0.05$, $M=0.5$, $R=0.5$, $\lambda=50$)

Fig. 4 Variation of the dimensionless velocity distribution along the y-axis with t for different values of Hall parameter m ($U_0=V_0=2$; $y=0$, $m_0=m_1=m_2=2$; $k=0.05$, $M=0.5$, $R=0.5$, $\lambda=50$)

Fig. 5 Variation of the dimensionless velocity distribution along the x-axis with t for different values of relaxation time $\lambda$ ($U_0=V_0=2$; $y=0$, $m_0=m_1=m_2=2$; $k=0.05$, $M=0.5$, $R=0.5$, $m=0.5$)

Fig. 6 Variation of the dimensionless velocity distribution along the y-axis with t for different values of relaxation time $\lambda$ ($U_0=V_0=2$; $y=0$, $m_0=m_1=m_2=2$; $k=0.05$, $M=0.5$, $R=0.5$, $m=0.5$)