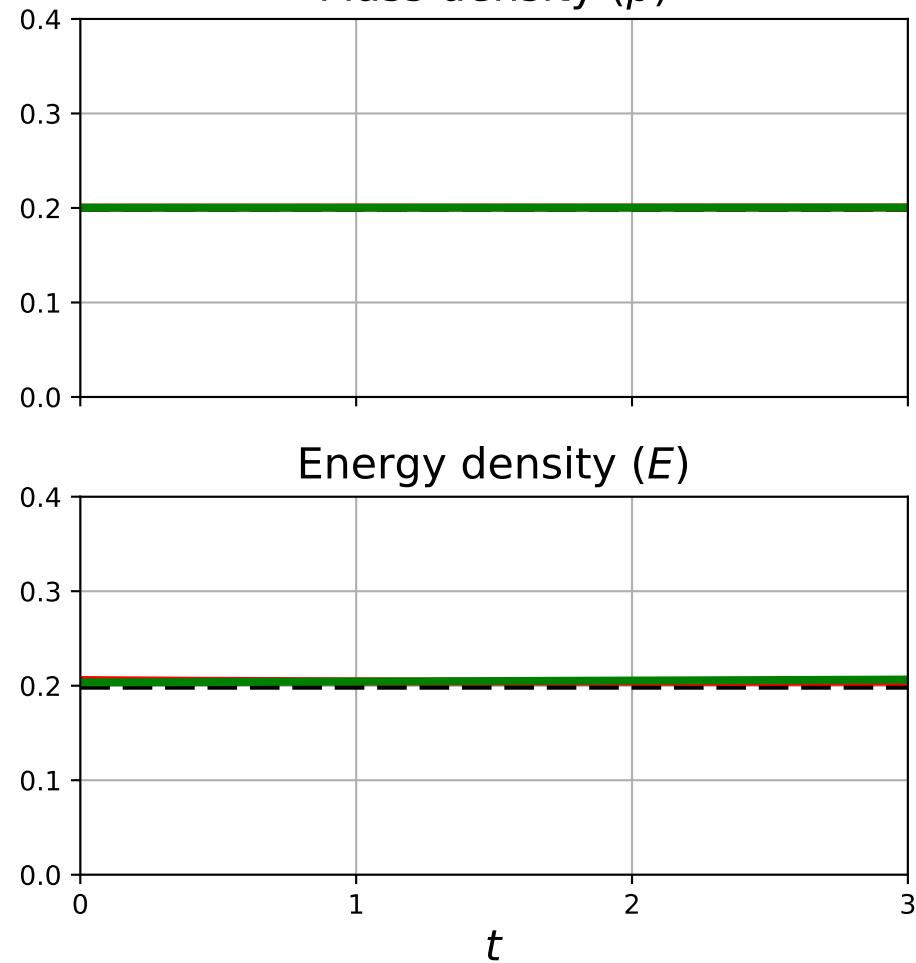


BKW solution ($\Lambda = 0.31$)

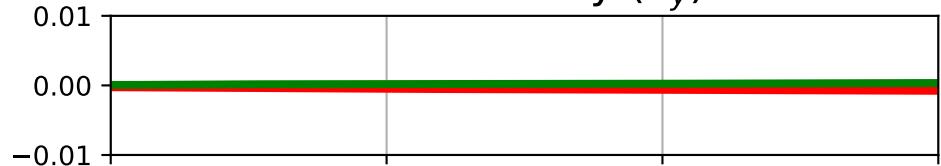
Mass density (ρ)



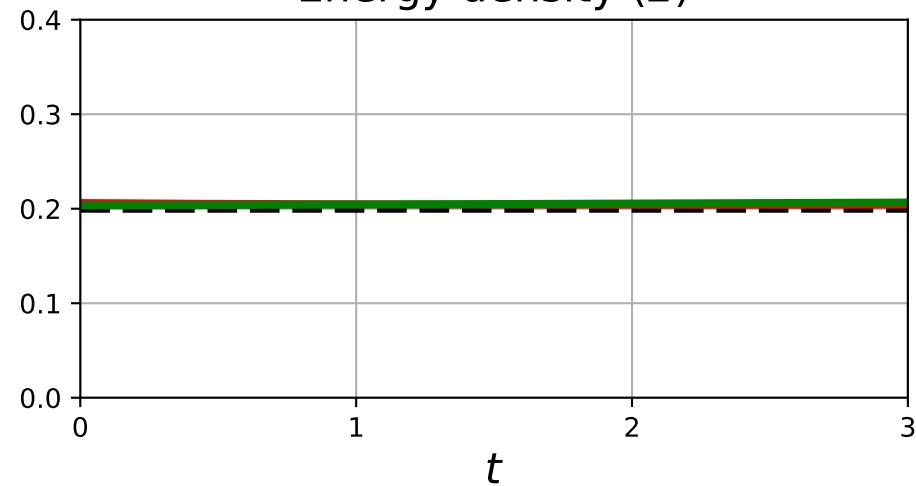
Bulk velocity (v_x)



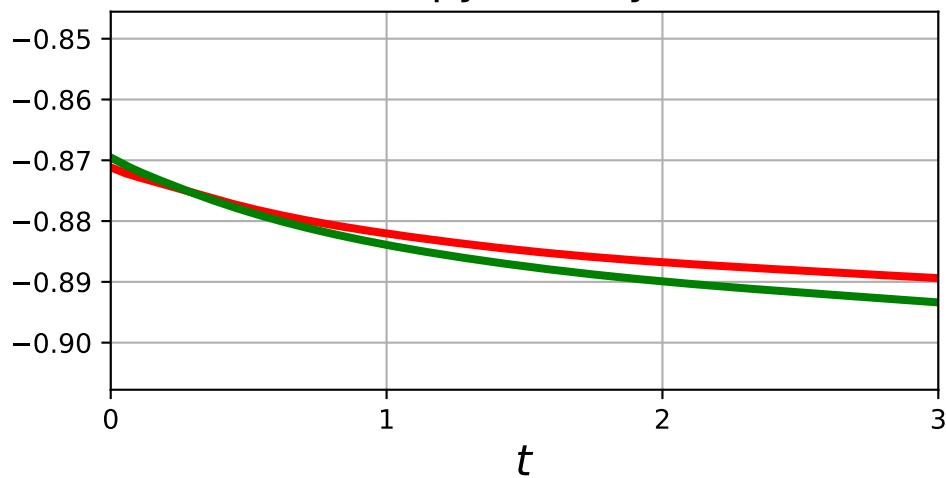
Bulk velocity (v_y)



Energy density (E)



Entropy density (H)



opPINN PINN (ours)