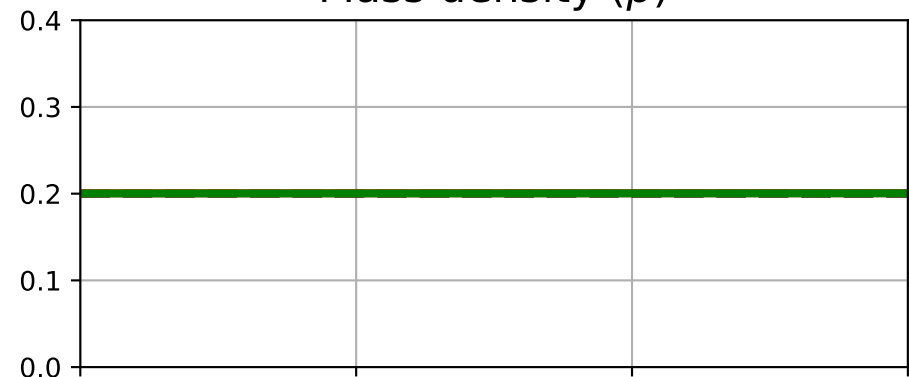


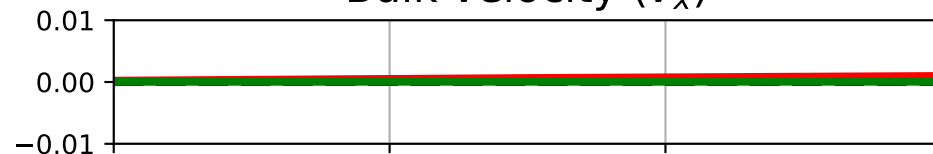
# BKW solution ( $\Lambda = 0.31$ )

## Trained for 4000 epochs

Mass density ( $\rho$ )



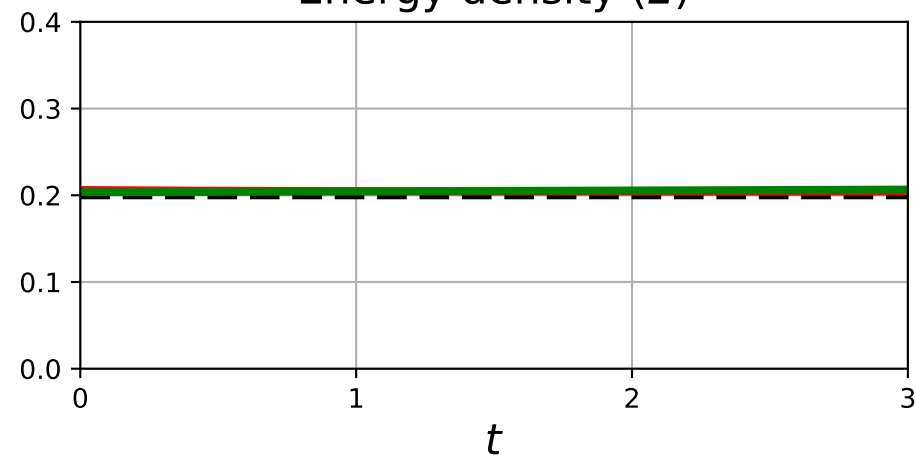
Bulk velocity ( $v_x$ )



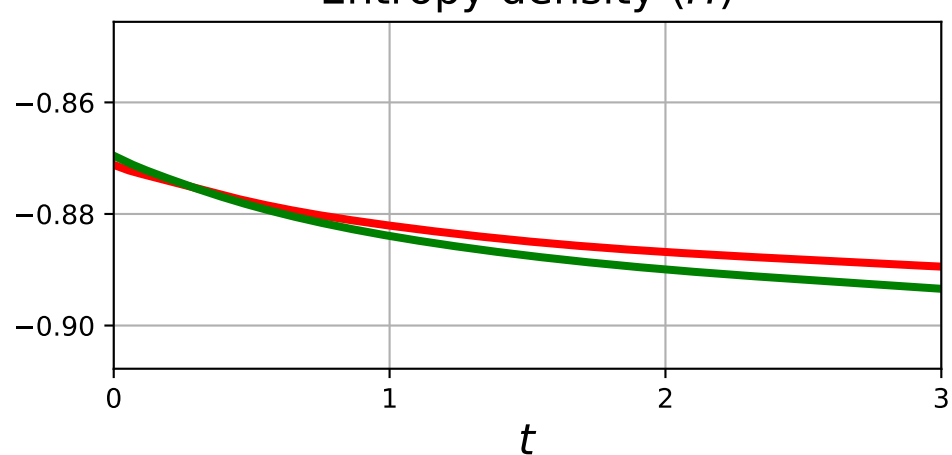
Bulk velocity ( $v_y$ )



Energy density ( $E$ )



Entropy density ( $H$ )



— opPINN — PINN (ours)