Supplementary C

Comparison of the present molecular simulation data with the FEOS as a function of density.

Density

![Graphs showing comparison between molecular simulation data and FEOS as a function of density at different temperatures and densities.](image-url)
Pressure

$T = 0.9$

$T = 0.95$

$T = 1.0$

$T = 1.05$

$T = 1.09$

$T = 1.1$

$T = 1.13$

$T = 1.15$

$T = 1.17$

$T = 1.2$

$T = 1.25$

$\rho$

$100 (\text{psim} - \text{ps}0) / \text{psim}$
Residual internal energy
Residual internal enthalpy

$T = 0.64\, \text{K}$

$T = 0.7\, \text{K}$

$T = 0.72\, \text{K}$

$T = 0.76\, \text{K}$

$T = 0.8\, \text{K}$

$T = 0.82\, \text{K}$

$T = 0.85\, \text{K}$

$T = 0.88\, \text{K}$

$T = 0.9\, \text{K}$

$T = 0.92\, \text{K}$

$T = 0.95\, \text{K}$

$T = 1.0\, \text{K}$

$T = 1.05\, \text{K}$

$\rho$
First derivative of the internal energy with respect to the volume
Residual isochoric heat capacity
Isochoric heat capacity