Mark Shuttuck

Surface tension in non-equilibrium steady-states.

We use a particle-scale definition of surface energy to derive a surface tension for both equilibrium and Non-Equilibrium Steady-States (NESS). We test this definition in simulations of 2D Lennard-Jones particles with a liquid-liquid interface using mechanical response to pure shear. We find that a consistent thermodynamic-like statistical description of these systems can be developed as we move from equilibrium to NESS.