

Supplementary Material:

Residual stress in athermal soft disordered solids: insights from microscopic and mesoscale models.

Microscopic simulation: recognizing the plastic activity during relaxation, post flow-cessation

In the supplementary movie (ActivityEvolve-DispColoring.mp4), we show the evolution of the model microscopic system during relaxation, after the initially imposed shear at $\dot{\gamma} = 10^{-3} \tau_0^{-1}$ is switched off.

In the movie, the non-transparent particles have displacements $\sqrt{dY^2 + dZ^2} \geq 0.001$. This cut-off, obtained from the time evolution of the single particle mean squared displacement during the stress relaxation, demarcates the transition from ballistic to diffusive regime. We term these particles are plastic or active. The semi-transparent particles are the neighbours of displaced particles. This rendering highlights the fact that during the relaxation, newer displacements are generated in the vicinity of initial plastic particles. This data is similar to the mesoscale simulation data (Fig.3 of main text), which shows new plastic events are produced due to the plastic events at the flow-cessation.