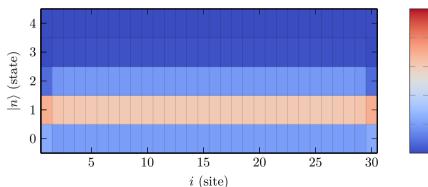SF state population (fixed $N = 30$, $J = 0.33$, $\mu = 0.8$)