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Effects of quenched randomness on predator-prey interactions in a stochastic Lotka-Volterra lattice model[1] UWE C. TAUBER, Department of Physics, Virginia Tech, Blacksburg, VA 24061-0435, ULRICH DOBRAMYSL, Institute of Seminconductor and Solid State Physics, Johannes Kepler University, 4040 Linz, Austria — We study the influence of spatially varying reaction rates (i.e., quenched randomness) on a stochastic two-species Lotka-Volterra lattice model for predator-prey interactions using Monte Carlo simulations. The effects on the asymptotic population densities, transient oscillations, spatial distributions, and on traveling wave and invasion front speed velocities are investigated. We find that spatial variability in the predation rate yields an increase in the asymptotic population densities of *both* predators and prey.

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