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Phase transition kinetics in the site dilute Ising model¹ KANG LIU, CHRISTOPHER SERINO, Boston University, RANJIT CHACKO, Clark University, WILLIAM KLEIN, Boston University — We consider the phase transition kinetics of a quenched site dilute Ising model. To date, most studies of this model have focused on dilution-averaged quantities, such as the critical temperature and the associated critical exponents. In this talk we study how the spatial distribution of the dilution affects the local growth of the stable phase after an instantaneous quench. For an off critical quench, we find growth occurs most rapidly in areas of increased dilution for both unstable state decay and nucleation. Conversely, growth after a critical quench is accelerated in environments with relatively few vacant sites. Additionally, we consider the role of the range of interaction in these processes.

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