## Abstract Submitted for the MAR07 Meeting of The American Physical Society

The effect of heterogeneity in infectivity and susceptibility on epidemic spread JOEL MILLER, Los Alamos National Laboratory — We consider the spread of an epidemic on a network with few short cycles. We develop analytical tools to determine the probability and final size of an epidemic when the infectiousness and/or susceptibility of individuals is heterogeneous. Using these tools, we find the distributions of infectiousness or susceptibility which maximize or minimize the size or probability of an epidemic

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Date submitted: 20 Nov 2006 Electronic form version 1.4