PERCOLATION AND EPIDEMIC THRESHOLDS IN CLUSTERED NETWORKS

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We develop a theoretical approach to percolation in random clustered networks. We find that, although clustering in scale-free networks can strongly affect some percolation properties, such as the size and the resilience of the giant connected component, it cannot restore a finite percolation threshold. In turn, this implies the absence of an epidemic threshold in this class of networks extending, thus, this result to a wide variety of real scale-free networks which shows a high level of transitivity. Our findings are in good agreement with numerical simulations.

[1] M. A. Serrano and M. Boguñá, cond-mat/0603353.