1067-60-1491   **John C. Wierman*** (`wierman@jhu.edu`), Dept. of Applied Mathematics & Statistics, Johns Hopkins University, Baltimore, MD 21218, and **Matthew R. A. Sedlock**. *On equality of critical exponents in homogeneous percolation models.* Preliminary report.

In percolation theory, the clustering behavior in an infinite random graph model is studied. An important quantity is the percolation threshold, which is often interpreted as a phase transition point. Several functions of interest in percolation models are believed to exhibit power law behavior near the percolation threshold. If such power law behavior is valid, the exponents in the power laws, called critical exponents, may be defined in terms of limits of the functions. It has only been proved that these limits exist for a few infinite lattice graphs. Assuming that their defining limits exist, we prove that the critical exponents of certain pairs of lattices are equal. The result applies to a large class of dual pairs of bond percolation models and a large class of matching pairs of site percolation models. The reasoning relies on stochastic ordering and Russo's formula, simplifying a previous proof that was more computational. (Received September 21, 2010)