1106-60-2539 **John C Wierman** and **Shaun W McCarthy*** (`smccart9@jhu.edu`), 3900 n charles st, Apt 1211, Baltimore, MD 21218. *Improving the upper bound for the bond percolation threshold of the cubic lattice.* Preliminary report.

Nearly all rigorous results on bond percolation thresholds are for two-dimensional lattices. Very little is known about three dimensional lattices, which are more relevant for physical application. By considering essentially two-dimensional subgraphs of the cubic lattice, and comparing them to solved two-dimensional lattices - such as the square, dice, and bowtie lattice - we find an improved upper bound for the bond percolation threshold of the cubic lattice. We use the substitution method, which is based on stochastic ordering. (Received September 16, 2014)