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**David G. Wagner\*** (dgwagner@math.uwaterloo.ca), Department of C & O, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada. *Negative correlations for spanning forests of graphs.*

When choosing a random spanning tree of a connected graph, any two distinct edges are negatively correlated (in the sense that the presence of one of them in the tree makes the presence of the other one less likely). This phenomenon underlies the Rayleigh monotonicity property of electrical networks. Grimmett and Winkler (2004) conjecture that an analogous negative correlation property holds when choosing a random spanning *forest* of a graph. I'll sketch a proof that these negative correlations are preserved by matroid 2-sums, even at the deeper level of the Potts model partition function. Combined with a few small examples, this gives the first infinite class of graphs for which the Grimmett-Winkler conjecture is known to hold. Together with another conjecture from probability theory, this has potential applications to Mason's (1972) conjecture on independent sets of matroids. (Received September 06, 2006)