Roelofs, Bartelt, and Einstein Respond: Schick's Comment\(^1\) provides a quite plausible explanation of the Ising nature of the order-disorder transition of \(p(2 \times 2)\) O/Ni(111). An alternative explanation, to which we alluded in our Letter,\(^2\) is disorder on the surface. For the Baxter-Wu model, Novotny and Landau\(^3\) recently showed, via Monte Carlo finite-size scaling, that small concentrations of quenched random impurities (i.e., missing spins) dramatically change the exponents \(\nu\) and \(\gamma\) from their 4-state Potts values to 1.00\(\pm\)0.07 and 1.95\(\pm\)0.08, respectively, consistent with the numbers extracted from the experiment.\(^2\) Also noting this result, Family\(^4\) supplied further support using position-space renormalization group.

We are extending our simulations of hexagonal lattice gas systems, using Monte Carlo finite-size scaling and preFacing transformations.\(^5\) Preliminary investigations of pure systems with plausible interactions show no evidence of Ising behavior.

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\(^1\)M. Schick, preceding Comment [Phys. Rev. Lett. 47, 1547 (1981)].


\(^4\)F. Family, private communication.