

Surface Ordering Near fcc Alloy Order-Disorder Transition

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We have studied the surface behavior near the phase transition of binary metal alloy, through Monte Carlo simulation of Ising model. The results are compared with the previous theoretical and experimental data on Pt-Ni system. We observe that a surface segregation occurs according to the given surface orientation while bulk undergoes an order-disorder transition, as previously studied. In addition, we observe that the disordering of the surface near the bulk transition strongly depends on its orientation. That is, (100) surface would show surface-induced order, whereas (111) surface would show surface-induced disorder.

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