

[23-S16]

## Steering effect on the shape of islands for homoepitaxial growth Cu on Cu(100)

권수미, 김혜영, 김재성, \*서지근, \*\*민항기  
숙명여대 물리학과, \*초당대 안경광학과, \*\*홍익대 물리학과

Steering effect on the shape of islands for homoepitaxial growth Cu on Cu(100)

During deposition of thin films, incident atom is refracted by the attraction of the pre-existing atoms on a substrate. For grazing incidence of Cu on Cu(001), such a dynamic effect, so-called steering effect, makes the shape of growing islands for the homoepitaxial growth of Cu on Cu(001), to be rectangular, different from the symmetry of the substrate [1]. We investigated the steering effect on the growth of islands by simulation methods. Kinetic behavior of the adatoms and the clusters on a substrate was described by kinetic Monte Carlo simulation, while the deposition near glancing angle by molecular dynamic simulation to mimic the refraction of incoming atoms. We investigated the steering effect on the growth behavior of Cu/Cu(100) in an atomic scale, and examined whether aforementioned experimental result could be reproduced in our simulation.

[References]

1. S.van Dijken and B.Poelsema, Phys.Rev.Lett.82,4038 (1999).