

Dynamic observation of Ag on In/Si (111) by LEEM

M.Ueda, M.Hashimoto, M.Suzuki, T.Yasue and T.Koshikawa

Fundamental Electronics Research Institute, Osaka Electro-Communication University 18-8 Hatsu-cho, Neyagawa, Osaka 572-8530

The dynamic observation of the growth process of Ag of In/Si(111) was done with low energy electron microscope (LEEM). The surface where the $\sqrt{3}\times\sqrt{3}$ and $\sqrt{31}\times\sqrt{31}$ structure coexist was prepared by using that the $\sqrt{31}\times\sqrt{31}$ structure grows at the step edge. Fig.1(a) shows the LEEM image of the prepared surface. The substrate temperature was set to 470 . The step bunch was induced by the existence of SiC and it is observed that the $\sqrt{31}\times\sqrt{31}$ structure develops at the step bunch preferentially. Ag was deposited on this surface at about 430 . Ag grows with the priority to $\sqrt{31}\times\sqrt{31}$ structure and Ag covers $\sqrt{3}\times\sqrt{3}$ structure, after covering all of $\sqrt{31}\times\sqrt{31}$ structure. Figs.1(b) and 1(c) show the LEEM images on the way of Ag deposition. The more detailed growth process will be shown in the presentation.

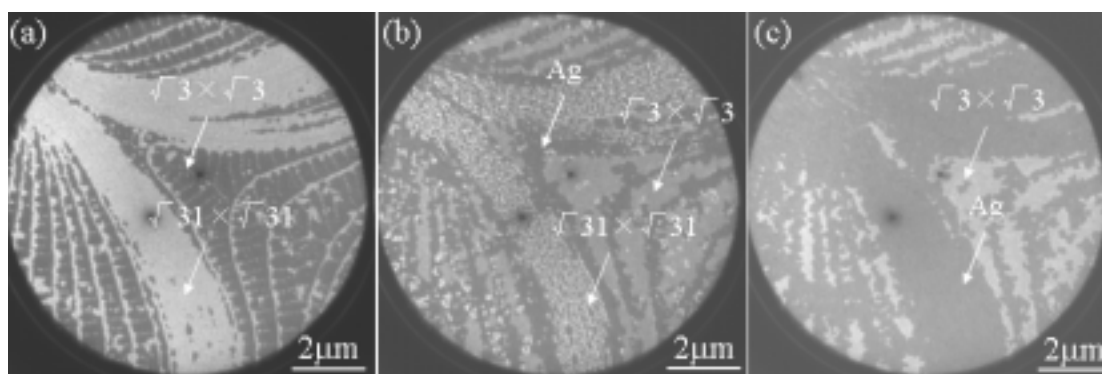


Fig.1(a) LEEM image of In/Si(111)

(b),(c) Snap shot of LEEM image of Ag on In/Si(111)

FOV= $10\mu\text{m}$, Ep:(a)9.90eV (b)-(c)10.60eV, T:(a)470 (b)-(c)430