

(표면 분과)

Topographic Development on Ion Beam Sputtered Surfaces.

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Topographic development on ion beam sputtered surfaces has been intriguing problems not only for scientific interest on understanding the mechanism in a microscopic point of view but also for its technological importance in ion milling, sputter depth profiling, semiconductor fabrication process, and etc.

In this report, a systematic study on topographic development of Ni/Cr multilayered thin film, GaAs/AlAs superlattice and SrTiO₃ surfaces as a function of ion incidence angle and ion species with SIMS depth profiling, AES sputter depth profiling, XPS, and SEM. The results showed a very strong dependence on ion incidence angle and ion species. In-situ XPS measurements suggest that surface inhomogeneity caused by ion beam sputtering can be one of the major factors that initiate surface topographic development.

Discussions will be given on the implications for practical applications and further investigations for more detailed understanding of surface topographic development by ion beams.