

Thermal evaporation 방법을 이용한 금속박막의 응력 거동
Stress behavior of metal thin films produced by thermal evaporation

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1. 서론

This paper is concerned with the effects of interfaces on the intrinsic stresses in metal thin films. Intrinsic refers to stresses that are not the result of directly applied loads or of differential thermal expansion between the films and its substrate or between different parts of the film.

2. 본론

We first discuss a remaining mechanism : the direct mechanical action of surfaces and interfaces through the surface of interface stress. The development of stress in metal thin films and multi-layers, monitored by in-situ curvature measurements during vapor deposition in ultra-high vacuum, is then analyzed.

3. 결과

We demonstrated the dependence of the stress evolution on the mobility of the deposited species and formulated some of the first ideas about the origins of the compressive and tensile contributions to the stress. Typical examples of stress evolution curves for a high mobility material, Cu at room temperature, are shown in the top curve and the first part. The characteristic features are a brief initial compressive part, followed by a broad tensile maximum, and finally a constant incremental compressive stress (the asymptotic value of the average film stress).

참고문헌

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