

Sputter 기반의 활성입자빔 증착장비를 이용한 a-C 박막 증착특성

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The depositing characteristics of amorphous carbon thin films by a reactive particle beam assisted sputtering process.

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Abstract : In this work, amorphous carbon thin films were deposited for hard mask applications by a reactive particle beam (RPB) assisted sputtering system at room temperature. The depositing characteristics of the films were investigated as functions of operating parameters such as reflector bias voltage and RF plasma power. It was confirmed that the deposition rate increased with increasing the reflector bias voltage and RF plasma power. By an atomic force microscope (AFM), it was revealed that the surface roughness was also increased. The total stress in films was determined by the use of the substrate curvature and its result will be discussed.

Key Words : Amorphous carbon film, Reactive Particle Beam assisted sputtering system, deposition