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Effects of High Neutral Beam Energy on the Properties of Amorphous Carbon Films

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The effects of argon neutral beam (NB) energy on the amorphous carbon (a-C) films were investigated, while the a-C films were deposited by neutral particle beam assisted sputtering (NBAS) system. The deposition characteristics of these films were studied as a function of NB energy (or reflector bias voltage). The film structures were investigated by Raman spectroscopy. The hardness was measured by nano-indentation tests and the optical band gap was measured by UV-visible spectroscopy.

Keyword: Amorphous carbon film Neutral particle beam assisted sputtering system