

AFM study of amorphous carbon films

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Abstract

Atomic force microscopy (AFM) has been used to study surface structures of amorphous carbon (α -C) films. α -C films were prepared by filtered arc deposition (FAD) technique. AFM revealed that the surface on formed films is uniform and smooth on the nanometer-scale and the root-mean-square roughness of the films surface is calculated to be approximately 0.23 ~ 0.26 nm. The influence of energy of incident carbon ion on the surface structures of α -C films was discussed.