CARBON NANOTUBES DEPOSITION USING ATMOSPHERIC PRESSURE GLOW BARRIER DISCHARGE IN ARGON WITH ACETYLENE ADMIXTURE

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Abstract

Atmospheric pressure glow barrier discharge in argon with acetylene admixture was used for carbon nanotubes deposition. It was shown that initially filamentary dielectric barrier discharge burning in pure argon at atmospheric pressure can be converted into homogeneous discharge by an acetylene admixture. Using fast ICCD camera it was proven that this homogeneous discharge is an atmospheric pressure glow discharge. The discharge was studied by electrical measurements and optical emission spectroscopy. The optimum conditions for carbon nanotubes deposition were searched, the deposited carbon nanotubes were studied by scanning electron microscopy.

Keywords: carbon nanotubes, optical emission spectroscopy, atmospheric pressure barrier discharge

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