

Abstract Submitted
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Large Scale Production of Carbon Single Walled Nanotubes by Plasma-Chemical Recondensation Method ELENA KOROBKO, People Friendship University of Russia, EDWARD DOBRINSKY, Institute of Biochemical Physics RAS, STANISLAV MALASHIN, Institute of Biochemical Physics RAS, ANATOLI KUZNETSOV, Institute of Biochemical Physics RAS, PEOPLE FRIENDSHIP UNIVERSITY OF RUSSIA TEAM, INSTITUTE OF BIOCHEMICAL PHYSICS RAS TEAM — In order to exploit the unique properties of carbon single walled nanotubes (SWNTs) it is necessary to produce kilogram to ton quantities at reasonable prices, with controllable key parameters. Many groups have investigated gas-phase continuous-flow production of carbon SWNTs. Here we present the new plasma-chemical technology of carbon SWNTs production, in which metal catalyst particles of iron were injected into an arc at a rate up to 5g/min through an opening in the electrode with the flow of Ar carrier gas. Further, the vaporized metal and the hydrocarbon gas mixed in the condensation chamber producing carbon soot. Characterization of produced carbon soot by electron microscopy also dependence of carbon SWNTs yield on synthesis parameters is presented.

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