



SEMINAR PROJEKTA #OI 171020

LABORATORIJA ZA FIZIKU ATOMSKIH SUDARNIH PROCESA

U utorak, 20.06.2017. sa početkom u 12 časova u sali “Dragan Popović” Instituta za fiziku u Beogradu održaće se seminar:

“Challenges in synthesis of nanostructures in plasma volume”

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We explored adsorption and migration behavior of a carbon adatom on a negatively charged armchair SWCNT of finite length, finding significant increase of the migration length. These findings could lead to a profound increase of SWCNT growth rate in an arc plasma volume aided by the carbon adatom flux on the external surface of SWCNT

Using the quantum-classical molecular dynamics, we were able to simulate synthesis of BN nanocages, nanococoons and fullerenes as well as growth of SWBNNTs in volume of electric arc plasma at normal pressure. Contrary to the widely accepted root-growth self-assembly mechanism, no boron nanoparticles are required in order to serve as nucleation point for BNNTs and BN nanocages.

- [1] L. Han, P. Krstić, I. Kaganovich, and R. Car, "Migration of a carbon adatom on a charged single-walled carbon nanotube", *CARBON* **116**, 174-180 (2017). <https://doi.org/10.1016/j.carbon.2017.02.003>
- [2] Longtao Han; and Predrag Krstić, “A Path for Synthesis of Boron-Nitride Nanostructures in Volume of Arc Plasma”, *Nanotechnology* (IOP) **28**, 07LT01 (2017). <https://doi.org/10.1088/1361-6528/aa5653>