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Carbon nanotube catalytic deposition synthesis

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Carbon nanotubes "CNTs" have been the focus of numerous investigations because of their unique and superior properties that are a consequence of their particular structure. Their synthesis has been receiving much attention for a wide variety of applications. Though, scientists are researching more economic ways to produce these structures with high quality and purity, our aim in this research is to investigate and optimize the results of the CNTs growth process using CCVD technique. Due to its simplicity and low cost, this technique is perfectly suited for the production of nanomaterials for future industrial applications. MWNTs CCVD synthesis was carried out at 700degC in 5 to 120 minutes reaction. It is essentially based on 2 steps process: a catalyst impregnation preparation step followed by CCVD procedure using ethylene decomposition over Fe-Co/MgO support. During this synthesis, impurities were also produced. Thus, subsequent chemical purification steps were required to separate the tubes. Finally, characterization of crude and purified products was performed by TEM, SEM and FESEM focusing on composition, form and purity obtained.

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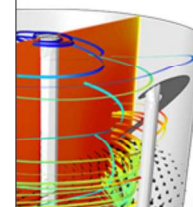
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