

**COMPARATIVE STUDY OF REFLECTANCE PROPERTIES OF
NANODIAMONDS, sp^2/sp^3 COMPOSITES, ONION-LIKE CARBON AND
MULTIWALLED CARBON NANOTUBES.**

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The ability to adsorb and reflect the EMI makes carbon nanomaterials (nanocarbons) the promising candidates for numerical potential applications related to EMI absorbance in a wide spectral region. Here we have measured diffuse reflectance of nanodiamond (ND), sp^2/sp^3 composites, onion-like carbon (OLC) and multiwalled carbon nanotubes (MWNTs) in infrared, visible and UV regions. The diffuse reflectance spectra of these materials are analyzed taking into account the size and defectiveness of graphene sheets which are considered as the main building blocks of sp^2 -carbon based nanocarbons. We have controlled defectiveness of all nanocarbons with HR TEM, Raman spectroscopy, temperature dependence conductivity and magnetoresistance measurements. The diffuse reflectance of carbon nanomaterials depends mainly on the electronic configuration, defect concentration, size of graphene-like ordered fragments and agglomerates of nanoparticles along with their morphology.