

CHARACTERIZATION OF NANODISPERSED GRAPHITE

*Yu.S. Perets, I.V. Ovsienko, L.L. Vovchenko,
L.Yu. Matzui, O.A. Brusilovetz, I.P. Pundyk*

Taras Shevchenko National University of Kyiv,
Department of Physics
(64, Volodymyrska Str., Kyiv 01033, Ukraine;
e-mail: peres2007@ya.ru)

S u m m a r y

The work is devoted to the questions of interrelations between methods of functionalization and to the distribution character of functional groups on the surface of nanographite plates. The functionalization of initial thermoexfoliated graphite (TEG) is carried out with the use of inorganic reagents such as KMnO_4 solutions in the sulfuric acid or a mixture of sulfuric and nitric acids and during different times of first and re-dispersion in a magnetic stirrer. The quantitative and qualitative compositions of functional groups on the surface of nanographite plates are determined by infrared spectroscopy method. As it is revealed from the detailed studies of a structure of functionalized graphite, the functionalization results in the destruction of the initial TEG structure and a reduction of the size of TEG particles down to several nanometers.