

Название: RESEARCH OF NANOSIZED CARBON FILMS BY X-RAY PHOTOELECTRONIC SPECTROSCOPY

Авторы: Valyukhov, D (Valyukhov, Dmitry); Lisitsyn, S (Lisitsyn, Sergey); Pigulev, R (Pigulev, Roman); Sidorov, K (Sidorov, Konstantin); Belayeva, E (Belayeva, Elena)

Групповые авторы книг: SGEM

Источник: NANO, BIO AND GREEN - TECHNOLOGIES FOR A SUSTAINABLE FUTURE, VOL I (SGEM 2015) **Серия книг:** International Multidisciplinary Scientific GeoConference-SGEM **Стр.:** 165-171 **Опубликовано:** 2015

Аннотация: The item offers a view on an analysis of research outcomes for diamond-like carbon (DLC) thin films. The samples were synthesized through plasma enhanced chemical vapour deposition by methane (CH₄) and ethane (C₂H₆) using Trion Phantom III. The substrates were monocrystalline silicon wafers with an orientation of (100). The impact of the synthesis factors on the structure and the composition of the DLC were evaluated with X-ray photoelectron spectroscopy while the measurements were performed on a photoelectron spectrometer PHI 5000 VERSA PROBE II. The outcomes suggest the presence of various carbon phases while based on the distribution with different hybridization degree we can make conclusion regarding the crystallinity of the structures obtained. The study revealed the presence of oxygen in the DLC thin film through the entire profile of the depth distribution, which is due to island-like nature of DLC films and not because of the sample being contaminated with oxygen. The distribution profiles allowed assessing the film layer.

Идентификационный номер: WOS:000371601900023

Название конференции: 15th International Multidisciplinary Scientific Geoconference (SGEM)

Дата проведения конференции: JUN 18-24, 2015

Место проведения конференции: Albena, BULGARIA

Спонсоры конференции: Bulgarian Acad Sci, Acad Sci Czech Repub, Latvian Acad Sci, Polish Acad Sci, Russian Acad Sci, Serbian Acad Sci & Arts, Slovak Acad Sci, Natl Acad Sci Ukraine, Inst Water Problem & Hydropower NAS KR, Natl Acad Sci Armenia, Sci Council Japan, World Acad Sci, European Acad Sci Arts & Letters, Acad Sci Moldova, Montenegrin Acad Sci & Arts, Croatian Acad Sci & Arts, Georgian Natl Acad Sci, Acad Fine Arts & Design Bratislava, Turkish Acad Sci, Bulgarian Ind Assoc, Bulgarian Minist Environ & Water

ISSN: 1314-2704

ISBN: 978-619-7105-42-1