

Abstract Submitted
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Study of the nanosurface properties by analyzing its absorption and scattering cross-section. IRINA BARIAKHTAR, Boston College — The interest to study the nanoparticles absorbed on the dielectric or semiconductor substrate is caused by the multiple practical applications of these systems such as nanosensors, electronic devices and lately in PV elements for improving of their efficiency [1, 2]. The author suggests a method of examining the properties of the nanosurface with the absorbed nanoparticle by calculating the absorption and scattering of the electromagnetic field by such system based on construction of its effective electric susceptibility. It was built based on the Green's function approach [3]. The computer simulations show good correspondence with the theory. It was shown that this approach can be applied to investigate the optical absorption and scattering on the nanoparticles on the substrate to be used in PV engineering. 1. Schaadt, D. M., Feng, B., Yu, E. Appl. Phys. Lett. 86 (6): 063106 (2005) 2. K. R. Catchpole and A. Polman, Opt. Express 16, 21793-21800 (2008) 3. I. Bariakhtar, Y. Demidenko, S. Kriuchenko, V. Lozovski, Surf. Sci. 323 (1995).

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