

INFLUENCE OF ATOM ADSORPTION UPON SURFACE PHASES ON SURFACE CONDUCTIVITY

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The study of the processes on surfaces is - one of the important directions in modern physics of the surfaces. The surface monocrystalline semiconductor, is very attractive for scientific studies because of broad using in semiconductor instrument, device and microelectronics. At the same time; study of such object on surfaces silicon as surface phases [1] presents the fundamental interest.

Recently more attention is spared to shaping of the more complex nanostructures by way to adsorptions atoms on formed surface phases on surfaces silicon.

It is well known, that surface phases form at submonolayer coverage on crystalline surface in the ultrahigh vacuum. Practically, such structures present the two-dimensional material, forming under determined temperature and concentrations adsorbate. The surface phases possess its electronic and crystalline structure different from structures of the three-dimensional material, therefore their characteristic different from characteristics of the three-dimensional material.

In present work were studied influence of the adsorptions atoms on structured and electrophysical characteristics of the surface phases on silicon. All experiments were performed in ultrahigh vacuum system DEL-300 with base pressure 10^{-10} Torr. For research of electric measurements were used fourpoint probe metod. The crystalline structure to surfaces was observed by low-energy electron diffraction.

1. V.G.Lifshits, A.A.Saranin, and A.V.Zotov, *Surface Phases on Silicon*, Wiley, Chichester, 1994, 450 p.