QUANTITATIVE SPECTROSCOPY OF THE ELECTRON-INDUCED PROCESSES ON THE SURFACE OF WIDE-BAND-GAP INSULATING MATERIALS

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S u m m a r y

We investigate the electron-induced processes on the surface dielectric films of MgO and CsI_xBr_{1-x}(Cd). The results of quantitative Auger-electron spectroscopy (AES) obtained by pure elemental standards within the method of matrix corrections for the films of MgO and CsI_xBr_{1-x}(Cd) are compared with those derived for single crystals. We identify electron-relaxational processes by the method of thermally stimulated exoelectron emission (TSEE) and electron-stimulated diffusive and destructive processes by the quantitative AES method. Such processes on the surface and in a near-surface layer of dielectric crystals and films cause certain changes in the stoichiometry of the surface under electron irradiation.