ELECTRONIC PROPERTIES OF DOPED ZnO FILMS: *AB INITIO* CALCULATIONS

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S u m m a r y

A change of the electron density distribution and a transformation of energy states of ZnO films with various thicknesses and different impurities (Cu, C, and Ag atoms) are investigated. The effects of compression, hydrogenization, and a defect of the number of atoms on the surface are examined. The results were obtained in the frame of the theory of pseudopotential by *ab initio* calculations and with the use of the electron density functional.