



## Electronic Properties of GaN and AlN Surfaces and Interfaces

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Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | Electronic Properties of GaN and AlN Surfaces and Interfaces | This book describes the electronic properties of the surfaces of gallium nitride (GaN) and aluminum nitride (AlN), which are the materials with applications in short wavelength light emitting devices and high power electronics. First, we report the studies of the surface structure, stoichiometry and electronic properties of GaN(0001) and AlN (0001) surfaces. Clean and ordered (1x1) surfaces with nearly stoichiometric composition were prepared and then investigated using direct and inverse photoemission spectroscopy. Filled and empty surface states were found to exist and extend beyond the valence and conduction band edges at GaN and AlN surfaces. These intrinsic surface states are presumably associated with cation dangling bonds. We then present the studies of negative electron affinity at AlN and GaN surfaces. The effects of cesium (Cs) adsorption on electron affinity at the AlN(0001)-1x1 and GaN(0001)-1x1 surfaces were investigated via ultra-violet and x-ray photoemission spectroscopy and total yield spectroscopy. We also discuss the chemical and electrical properties of metal-GaN interfaces. | Format: Paperback | Language/Sprache: english | 232 gr | 168 pp.



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