

## **Morphology of Ruthenium Thin Films on n-type GaN(0001)**

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Gallium nitride (GaN) and related compounds are very interesting due to their wide applications as well as ultraviolet light emitting devices and high temperature, high frequency and high power electronic devices. The thermally stable contacts to GaN with smooth topography are still required. Electrical properties of ruthenium based contact to n-GaN were investigated by researchers and were found to be suitable for the high temperature applications [1, 2].

We report the result of our studies of ruthenium layers structure adsorbed on n-type GaN(0001). Ruthenium was evaporated at room temperature under ultra high vacuum condition onto n-type GaN substrates epitaxially grown on sapphire. While XPS spectra confirm a presence of the Ru bounds in the deposited adlayers, the UPS spectra show a well-pronounced peak near the Fermi level. Annealing with oxygen atmosphere exhibits the thermal stability of the adsorbed layers.

[1] C. Ramesh, V. Reddy, K. Rao, *J Mater Sci: Mater Electron* **17**, 999 (2006).

[2] W. Macherzyn, et al., *2008 International Conference on ASDAM*, 187 (2008).