

Synthesis and characterization of magnetic element-doped GaN nano-wires

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For wider applications of nano-wires in nano-scale devices, the demand for the capability of tailoring functionality and properties of the nano-wires is growing. In this vein, we have been synthesizing hetero-structured and doped nano-wires. The properties have been characterized by SEM, XRD, TEM, SAED, SQUID, PL, and I-V measurements.

In this presentation, structural and physical properties of Mn, Al-doped GaN and Cr-doped GaN nano-wires will be discussed. Our current effort to grow GaN nano-wires vertically to the substrates for axial hetero-structures will also be presented.