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Magnetic and Electrical Properties of GaN and GaMnN Nanowires[1] DILLON MCDOWELL, OLENA BOLILA, MOHAMED ABDELMOULA, LATIKA MENON, Northeastern University — GaN and GaMnN nanowires grown by means of chemical vapor deposition method on a catalyst-deposited substrate are typically known to exhibit a vertical growth pattern and crystallize in the hexagonal wurtzite structure. By controlling the catalyst dimensions, novel growth patterns, such as epitaxial growth can be obtained. Transport measurements indicate good current-carrying capacity for epitaxial GaN nanowires with potential applications in advanced nanoelectronic devices. Magnetic properties of GaMnN nanowires synthesized by means of chemical vapor deposition on Au catalysts will also be discussed. Such nanowires will have potential applications in spintronic devices.

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