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Growth and characterization of YMnO₃ nanocrystalline prisms¹ E. RAMOS-MOORE, Facultad de Fisica, Pontificia Universidad Catolica de Chile,

E. RAMOS-MOORE, Facultad de Fisica, Pontificia Universidad Catolica de Chile, CAMERON KEENAN, SANDEEP CHANDRIL, Department of Physics, West Virginia University, A. L. CABRERA, Facultad de Fisica, Pontificia Universidad Catolica de Chile, THOMAS H. MYERS, Departament of Physics, West Virginia University, DAVID LEDERMAN, Department of Physics, West Virginia University, WEST VIRGINIA UNIVERSITY COLLABORATION, PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE COLLABORATION — YMnO₃ epitaxial self-assembled nanoprisms were grown on GaN by molecular beam epitaxy. The prisms formed suddenly after 6 unit cells during Stranski-Krastanow epitaxial growth at 850 °C, with sizes ranging from 20 nm to 60 nm in height and 50 nm to 500 nm in lateral dimensions. They were characterized via energy dispersive analysis of x-rays (EDAX) mapping and x-ray diffraction and reflectivity. EDAX line scans across the prisms showed that the prisms were composed of YMnO₃. X-ray diffraction showed a 2.2% strain along the growth direction and a 1.6% compression in the plane when compared to bulk lattice parameters.

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Esteban Ramos Facultad de Fisica, Pontificia Universidad Catolica de Chile

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