

[physica status solidi \(c\)](#)

[Volume 3, Issue 6](#), Pages 2065 - 2068

Published Online: 29 May 2006

Copyright © 2006 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim

Abstract | [References](#) | Full Text: [PDF](#) (311k) | [Related Articles](#) | [Citation Tracking](#)

Original Paper

Surface enhanced Raman scattering by GaN nanocolumns

A. G. Milekhin^{1*}, R. Meijers², T. Richter², R. Calarco², H. Lüth², B. A. Paez Sierra³, D. R. T. Zahn³

¹Institute of Semiconductor Physics, 630090 Novosibirsk, Russia

²Institute of Thin Films and Interfaces (ISG1) and CNI - Centre of Nanoelectronic Systems for Information Technology, Research Center Jülich, 52425 Jülich, Germany

³Institut für Physik, Technische Universität Chemnitz, Germany

email: A. G. Milekhin (milekhin@thermo.isp.nsc.ru)

*Correspondence to A. G. Milekhin, Phone: +007-383-334-3591, Fax: +007-383-333-2771

63.22.+m • 68.37.Hk • 68.70.+w • 78.30.Fs • 81.15.Hi

Abstract

The GaN nanocolumns were grown by plasma-assisted molecular beam epitaxy (PAMBE) on Si(111) substrates. Scanning electron microscopy shows that the nanocolumns with diameters of 20-150 nm and lengths of 300-500 nm grow parallel to the [111] direction of the Si substrate. The vibrational spectrum (including optical and interface phonons) of the nanocolumns was studied using conventional and surface enhanced Raman scattering. (© 2006 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim)

Received: 25 October 2005; Accepted: 13 April 2006

Digital Object Identifier (DOI)

10.1002/pssc.200565148 [About DOI](#)