

## Quick Search

All fields

Author



search tips

Journal/book title

Volume

Issue

Page

Clear Go [Advanced Search](#)

## Surface Science

Volume 220, Issues 2-3, 2 October 1989, Pages 253-267

Font Size:  

## Abstract

doi:10.1016/0039-6028(89)90231-8

 [Cite or Link Using DOI](#)

Copyright © 1989 Published by Elsevier B.V.

## Electron energy loss spectroscopy studies of nitrogen adsorption on W(100)









A Sellidj<sup>a</sup> and J.L. Erskine<sup>a</sup><sup>a</sup>Department of Physics, University of Texas, Austin, TX 78712, USA

Received 27 January 1989; accepted 10 May 1989. Available online 18 September 2002.

## Abstract

Vibrational excitations of nitrogen on W(100) are investigated over the 100–300 K temperature range using elastic and inelastic electron scattering. New vibrational modes of nitrogen are identified that require different mode assignments from previous work. Experimental evidence for a molecular precursor to the atomic  $\beta_2$  phase of adsorbed nitrogen is presented. Coverage dependent studies of vibrational modes suggests conversion between two different molecular surface phases and between atomic and molecular phases. A new ordered nitrogen phase characterized by a  $(4 \times 1)$  LEED pattern is observed. The new phase appears to consist of orthogonal domains of  $p(4 \times 1)$  symmetry that contain atomic nitrogen at the four fold sites (the  $\beta_2$  atomic phase) with additional bridge-bonded nitrogen atoms in the unit cell.

## Article Toolbox

-  E-mail Article
-  Export Citation
-  Cited By
-  Add to my Quick Links
-  Save as Citation Alert
-  Permissions & Reprints
-  Citation Feed
-  Cited By in Scopus (13)

## Related Articles in ScienceDirect

- [Vibrational modes of oxygen on W\(110\)](#)  
*Surface Science*
- [The adsorption of atomic hydrogen on Cu\(111\) investigat...](#)  
*Surface Science*
- [Vibrational excitations of hydrogen and oxygen on Pd\(10...](#)  
*Surface Science*
- [Vibrational excitations of nitric oxide adsorbed on Pd\(...](#)  
*Surface Science*
- [Coadsorption of oxygen and hydrogen on a stepped nickel...](#)  
*Surface Science*

[View More Related Articles](#)[View Record in Scopus](#)

## Surface Science

Volume 220, Issues 2-3, 2 October 1989, Pages 253-267

