



Surface-related phonon mode in porous GaP

I.M Tiginyanu, V. V Ursaki, V. A Karavanskii, V. N Sokolov,
Y. S Raptis, E Anastassakis

[https://doi.org/10.1016/0038-1098\(95\)00677-X](https://doi.org/10.1016/0038-1098(95)00677-X)

Abstract

Porous GaP layers prepared by electrochemical anodization of (1 0 0) and (1 1 1) A-oriented *n*-GaP crystalline substrates in HF solution have been studied by Raman spectroscopy. A surface vibrational mode at 397 cm⁻¹ was observed in porous GaP. The process of anodization results in downward shifts of the TO and LO phonon frequencies, which are attributed to phonon confinement in crystalline GaP particles of nanometer size.