## Accepted Manuscript

Free-volume defects investigation of  $GeS_2$ - $Ga_2S_3$ -CsI chalcogenide glasses by positron annihilation spectroscopy

Junpeng Li, Guoxiang Wang, Changgui Lin, Tengyu Zhang, Rui Zhang, Zhaohuang Huang, Xiang Shen, Bingchuan Gu, Bangjiao Ye, Feifei Ying, Maozhong Li, Qiuhua Nie

PII:	S1350-4495(16)30717-4
DOI:	http://dx.doi.org/10.1016/j.infrared.2017.04.012
Reference:	INFPHY 2276
To appear in:	Infrared Physics & Technology
Received Date:	17 December 2016
Revised Date:	21 April 2017
Accepted Date:	23 April 2017



Please cite this article as: J. Li, G. Wang, C. Lin, T. Zhang, R. Zhang, Z. Huang, X. Shen, B. Gu, B. Ye, F. Ying, M. Li, Q. Nie, Free-volume defects investigation of GeS<sub>2</sub>-Ga<sub>2</sub>S<sub>3</sub>-CsI chalcogenide glasses by positron annihilation spectroscopy, *Infrared Physics & Technology* (2017), doi: http://dx.doi.org/10.1016/j.infrared.2017.04.012

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

### Free-volume defects investigation of GeS<sub>2</sub>-Ga<sub>2</sub>S<sub>3</sub>-CsI chalcogenide

#### glasses by positron annihilation spectroscopy

Junpeng Li<sup>a,b</sup>, Guoxiang Wang<sup>a,b</sup>, Changgui Lin<sup>a,b</sup>, Tengyu Zhang<sup>a,b</sup>, Rui Zhang<sup>a,b</sup>,

Zhaohuang Huang<sup>a,b</sup>, Xiang Shen<sup>a,b</sup>, Bingchuan Gu<sup>c,d</sup>, Bangjiao Ye<sup>c,d</sup>, Feifei

Ying<sup>e</sup>, Maozhong Li<sup>e</sup>, Qiuhua Nie<sup>a,b\*</sup>

<sup>a</sup>Laboratory of Infrared Materials and Devices, The Research Institute of Advanced Technologies, Ningbo University, Ningbo 315211, China

<sup>b</sup>Key Laboratory of Photoelectric Detection Materials and Devices of Zhejiang Province,

Ningbo University, Ningbo 315211, China

<sup>c</sup>Department of Modern Physics, University of Science and Technology of China, Hefei 230026, China

230020, China

<sup>d</sup>State Key Laboratory of Particle Detection and Electronics, University of Science and Technology of China, Hefei 230026, China

<sup>e</sup>North Yunnan Chihong photoelectric Co Ltd, Kunming 650000, China

#### \*Corresponding author:

E-mail address: nieqiuhua1@126.com

#### 1. Introduction

The sulfide-based chalcogenide glasses (ChGs) such as  $GeS_2-Ga_2S_3$  glasses possess exceptional transparency and high nonlinearity, which have been widely used in multispectral imaging lenses, chemical and biological sensors, optical circuits, and planar waveguides [1-3]. However, disordered covalent-bonded networks proper to ChGs possess notable amount of Download English Version:

# https://daneshyari.com/en/article/5488474

Download Persian Version:

https://daneshyari.com/article/5488474

Daneshyari.com