

NU  
J80/c5  
  
ELSEVIER

Volume 390

15 March 2014

ISSN 0022-0248

JOURNAL OF

# CRYSTAL GROWTH

EDITORS:

T.F. KUECH (Principal Editor),  
University of Wisconsin-Madison

R.S. FEIGELSON, Stanford University

R. KERN, University of Aix-Marseille

K. NAKAJIMA, Kyoto University

G.B. STRINGFELLOW,  
University of Utah

FOUNDING EDITOR: M. SCHIEBER

CO-FOUNDERS: N. CABRERA, B. CHALMERS,  
F.C. FRANK

FORMER ADVISOR: R.A. LAUDISE<sup>†</sup>

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect



Abstracted/Indexed in: Aluminium Industry Abstracts; Chemical Abstracts; Current Contents: Physical, Chemical and Earth Sciences; EI Compendex Plus; Engineered Materials Abstracts; Engineering Index: INSPEC; Metals Abstracts. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®

## CONTENTS

### **Classical semiconductors**

- Surface morphology and Bi incorporation in GaSbBi(As)/GaSb films  
A. Duzik and J.M. Millunchick 5

- On the use of methane as a carbon precursor in Chemical Vapor Deposition of silicon carbide  
M. Yazdanfar, H. Pedersen, P. Sukkaew, I.G. Ivanov, Ö. Danielsson, O. Kordina and E. Janzen 24

- Controlling indium incorporation in InGaN barriers with dilute hydrogen flows  
D.D. Koleske, J.J. Wierer Jr., A.J. Fischer and S.R. Lee 38

- Influence of the barrier composition in GaN/In<sub>x</sub>Al<sub>1-x</sub>N quantum wells properties  
N. Kriouche, A. Watanabe, O. Oda and T. Egawa 51

- A new approach to the CZ crystal growth weighing control  
P.V. Kasimkin, V.A. Moskovskih, Y.V. Vasiliev, V.N. Shlegel, V.S. Yuferev, M.G. Vasiliev and V.N. Zhdankov 67

- An analysis of segregation during horizontal ribbon growth of silicon  
P. Daggolu, A. Yeckel and J.J. Derby 80

- Solid solution strengthening and phase transformation in high-temperature annealed Si<sub>80</sub>Ge<sub>20</sub> alloy  
T.-Y. Chiang, H.-C. Wen, W.-C. Chou and C.-H. Tsai 92

- Control of silicon solidification and the impurities from an Al-Si melt  
P. Wang, H. Lu and Y. Lai 96

### **Electronic materials**

- Prismatic punching defects in CdTe compounds  
K.H. Kim, A.E. Bolotnikov, G.S. Camarda, J. Franc, P. Fochuk and R.B. James 1

- Homoepitaxial growth of AlN layers on freestanding AlN substrate by metalorganic vapor phase epitaxy

- T. Morishita, M. Iwaya, T. Takeuchi, S. Kamiyama and I. Akasaki 46

- Piezoelectric, ferroelectric properties of multiferroic YMnO<sub>3</sub> epitaxial film studied by piezoresponse force microscopy

- R. Zhang, C. Chen, M. Duan, L. Niu and K. Jin 56

### **Solution growth; industrial biological and molecular crystallization**

- Rational polymorph screening based on slow cooling crystallization of poorly soluble mebendazole

- M. Karashima, K. Kimoto, T. Kojima and Y. Ikeda 30

- Ultrasound assisted reactive crystallization of strontium sulfate

- A.R. Sheikh and S.R. Patel 114

### **General subjects**

- Growth and structural characterizations of chromium mixed molybdenum diselenides (Cr<sub>x</sub>Mo<sub>1-x</sub>Se<sub>2</sub> ( $x=0.25, 0.50, 0.75$ )) single crystals

- P. Desai, D.D. Patel and A.R. Jani 12

- Investigation on the growth and characterization of 4-aminobenzophenone single crystal by the vertical dynamic gradient freeze technique

- S.P. Prabhakaran, R. Ramesh Babu, M. Sukumar, G. Bhagavannarayana and K. Ramamurthi 18

- Epitaxial growth of spinel cobalt ferrite films on MgAl<sub>2</sub>O<sub>4</sub> substrates by direct liquid injection chemical vapor deposition

- L. Shen, M. Althammer, N. Pachauri, B. Loukya, R. Datta, M. Iliev, N. Bao and A. Gupta 61

- General aspects of the vapor growth of semiconductor crystals – A study based on DFT simulations of the NH<sub>3</sub>/NH<sub>2</sub> covered GaN(0001) surface in hydrogen ambient

- P. Kempisty, P. Strak, K. Sakowski and S. Krukowski 71

*Contents continued on inside back cover*



*Contents continued from outside back cover*

Single crystal growth and structure refinement of hollandite-type $K_{1.98}Fe_{1.98}Sn_{6.02}O_{16}$ K. Fujimoto, K. Takamori, Y. Yamaguchi and S. Ito	88	Molecular beam epitaxy growth of GaAsBi using As <sub>2</sub> and As <sub>4</sub> R.D. Richards, F. Bastiman, C.J. Hunter, D.F. Mendes, A.R. Mohmad, J.S. Roberts and J.P.R. David	120
Temperature-dependent growth mechanism and microstructure of ZnO nanostructures grown from the thermal oxidation of zinc L. Yuan, C. Wang, R. Cai, Y. Wang and G. Zhou	101	On the detachment of Si ingots from SiO <sub>2</sub> crucibles B. Gallien, T. Duffar and J.P. Garandet	125
Finite element simulation of the temperature field in the large volume cubic high pressure apparatus cavity X. Gu, R. Li and Y. Tian	109		