

Table of Contents

Participants

Committees

Preface

Stress and Intermixing in Epitaxial Ni(111)/Mo(110) Superlattices

G. Abadias, A. Debelle, A. Michel and C. Jaouen 1

Redistribution of Implanted Species in Polycrystalline Silicon Films on Silicon Substrate

F. Salman, J. Arnold, P. Zhang, G.G. Chai, F.A. Stevie and L. Chow 7

Investigating Interdiffusion in Mo/V Multilayers from X-Ray Scattering and Kinetic Simulations

M.C. Benoudia, J.M. Roussel, S. Labat, O. Thomas, D.L. Beke, G.A. Langer and M. Kis-Varga 13

Intermixing in Cu/Co: Molecular Dynamics Simulations and Auger Electron Spectroscopy Depth Profiling

P. Süle and M. Menyhard 19

Simultaneous Measurement of Tracer Jump Frequencies on Different Sublattices in Ga₇Pd₃ Using PAC

E.R. Nieuwenhuis, M.O. Zacate and G.S. Collins 27

Dopant Diffusion during Amorphous Silicon Crystallization

A. Portavoce, R. Simola, D. Mangelinck, J. Bernardini and P. Fornara 33

Grain Boundary Surface Tension, Segregation and Diffusion in Cu-Sn System

E.I. Gershman and S. Zhevnenko 39

The Stress Field in Cu-Fe-Ni Diffusion Couples

B. Wierzba, M. Danielewski, R. Bachorczyk Nagy and M. Pietrzyk 47

Effect of Morphology on the Mobility of Nanosized Liquid Pb Inclusions in Solid Al

S.I. Prokofjev, V.M. Zhilin, E. Johnson and U. Dahmen 55

Nonlinear Field Theory of the Stress Induced Interdiffusion and Mass Transport

P. Dłużewski 63

Stress Evolution in Thin Films; Diffusion and Reactions

U. Welzel and E.J. Mittemeijer 71

Cross Diffusion-Stresses Effects

B.S. Bokstein, A. Epishin, V. Esin, M. Mendelev, A. Rodin and S. Zhevnenko 79

Nanoscale Effects in Interdiffusion

Z. Erdelyi, G.A. Langer, A. Csik and D.L. Beke 91

Diffusion-Induced Stresses: Theory and Applications

Y.C. Chen 99

Nonequilibrium Vacancies in Nanosystems

A. Gusak, S. Kornienko and G.V. Lutsenko 109

Nonlinear Stress Effects in Diffusion

D.L. Beke, Z. Erdelyi and G.L. Katona 117

Stress Relaxation Mechanisms during Cd₂₁Ni₅ Intermetallic Growth under High Hydrostatic Pressure

Y.S. Kaganovsky, L.N. Paritskaya, V.V. Bogdanov and W. Łojkowski 123

Thermal and Mechanical Stability of Polycrystalline Nanowires

L. Klinger and E. Rabkin 133

On the Role of Stress, Strain and Diffusion in Dissolution – Condensation Mechanism of Liquid Metal Embrittlement

E.E. Glickman 141

Diffusion of Implanted Metals in Tantalum Silicide

F. Salman, P. Zhang, F.A. Stevie and L. Chow 151

Solid-State Reactions in Ni(10 nm)/C(2 nm)/Si(001) Thin Film System

Y.N. Makogon, O.P. Pavlova, G. Beddies, A.V. Mogilatenko and O.V. Chukhrai 155

Influence of Annealing Environment and Film Thickness on the Phase Formation in the Ti/Si(100) and (Ti+Si)/Si(100) Thin Film Systems

Y.N. Makogon, O.P. Pavlova, S.I. Sidorenko, G. Beddies and A.V. Mogilatenko 159

Study of Diffusion and Reaction Diffusion in the Fe-C-Nb System

R.A. Pérez, P. Gas and P. Maugis

163

On the Local Equilibrium during Dissolution of a Thin Film

Z. Erdélyi, A. Taranovskyy and D.L. Beke

171