Mechanisms of Surface and Microstructure Evolution in Deposited Films and Film Structures
Mechanisms of Surface and Microstructure Evolution in Deposited Films and Film Structures

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CONTENTS

Preface .......................................................................................................................... xiii

Materials Research Society Symposium Proceedings.............................................. xiv

EPITAXIAL GROWTH I

Have We Found the Final Explanation for the Onset of Rapid Interlayer Mass Transport? ...................................................... O1.2  
M. Giesen and H. Ibach

Rapid Adatom Island Decay on Cu(111): A Kinetic Monte Carlo Simulation Study ............................................................................ O1.3  
Mats I. Larsson

Temperature and Coverage Dependence of the Surface Roughness for the Growth of Cu on Cu(001): An X-ray Scattering Study .......................................................... O1.5  
Cristian E. Botez, William C. Elliott, Paul F. Miceli, and Peter W. Stephens

An Integrated Molecular Dynamics and Monte Carlo Approach to Study Epitaxial Deposition of Silicon .................................................................................. O1.8  
Sweta Somasi, Bamin Khomami, and Ronald Lovett

EPITAXIAL GROWTH II

Vacancies in Homoepitaxially-Grown Ag and Cu Films ........................................ O2.7  
Cristian E. Botez, William C. Elliott, Paul F. Miceli, and Peter W. Stephens

STM Investigation of Energetic Insertion During Direct Ion Deposition .......................................................... O2.9  
Joshua M. Pomeroy, Aaron Couture, Joachim Jacobsen, Barbara H. Cooper, J.P. Sethna, and Joel D. Brock

Role of Si(100) Surface Patterns in the Phase Separation of Cu/Sn Thin Films .................................................................................. O2.10  
Qin Hu, Martin Zinke-Allmang, and Ian V. Mitchell

POSTER SESSION

Simulation Study of Copper Cluster Deposition .................................................... O3.1  
Jin C. Kang, Jeong W. Kang, and Ho J. Hwang
Photoacoustic Spectra From Copper Phthalocyanine Films on Si Wafers.................................................................................................................. O3.3
Masato Ohmukai, Hitoshi Kubota, and Yasuo Tsutsumi

A Study on Unique Crystal Morphology Observed in the Polycrystalline Copper CVD........................................................................................................ O3.5
Yuneng Chang, Yalian Chen, and Kuanhon Chen

Plasma Diagnostics and the Evolution of a Novel Titanium Nitride Deposition Process .................................................................................................. O3.6
Chris Muratore, John J. Moore, J. Alan Rees, Dan Carter, and Greg Roche

The Influence of the Internal Microstructure on the Surface Parameters of Polycrystalline Thin Films ........................................................................ O3.13
C. Eisenmenger-Sittner and A. Bergauer

Study of Atomic Steps on the Single Crystal Surface by Grazing Ion Scattering ............................................................................................................. O3.17
A.A. Dzhurakhalov

Deposition of Ru Thin Films by MOCVD Using Direct Liquid Injection System ........................................................................................................... O3.18
Sang Y. Kang, Cheol S. Hwang, and Hyeong J. Kim

Epitaxial Growth and Interface Roughness of PdMn/Fe Bilayer Structures Grown by Ion-Beam Sputtering ............................................................... O3.21
Ning Cheng, J.P. Ahn, Werner Grogger, and Kannan Krishnan

Relation Between Texture and Stress in Thin Sputtered Molybdenum Layers ............................................................................................................. O3.22
Ilse M. van den Berk, Léon J. Seijbel, and Rob Delhez

Crystallographic and Morphological Properties of Magnetron Sputtered Ti and Zr Thin Films .................................................................................. O3.26
Eliane F. Chinaglia and Ivette C. Oppenheim

Microstructure Origin for Thermal Fatigue of TiNi Films ................................................................................................................................. O3.29
Shulin Wen and Jibao He

The Laser-Mössbauer Method for Surface Evolution and Thin Film Microstructure ................................................................................................. O3.31
Monica Sorescu

MOCVD ZnS:Mn Films: Grain Size Distribution and Crystal Structure as a Function of the Growth Parameters ..................................................... O3.33
Kathleen A. Dunn, Katharine Dovidenko, Anna W. Topol, Serge R. Oktyabrsky, and Alain E. Kaloyeros
The Influence of Plasma Composition on the Properties of Plasma Treated Biomaterials

Nilson C. Cruz, Eldiane C. Rangel, Giovana Z. Gadioli, Rogério P. Mota, Roberto Y. Honda, Mauricio A. Algatti, and Wido H. Schreiner

MULTILAYERS: STRESS IN THIN FILMS

* Atomic Assembly of Giant Magnetoresistive Multilayers

Haydn N.G. Wadley, Xiaowang Zhou, and Robert A. Johnson

Epitaxial NiO-Co Exchange-Biased Bilayers Grown on MgO
Single Crystals: Influence of the Substrate Orientation on the Film Morphology, the Co Structure, and the Magnetic Behavior


Dislocation Arrays in the Interfaces Between Substrates and Epitaxial Islands

Annamalai Lakshmanan, Vidyut Gopal, Alexander H. King, and Eric P. Kvam

EARLY STAGES OF FILM GROWTH: MECHANICAL PROPERTIES

Correlations Between Island Nucleation and Grain Growth for Polycrystalline Films

C. Eisenmenger-Sittner and A. Bergauer

"Magic" Nanostructures During the Early Stage of Thin Film Growth


* Dynamics of the Euler Buckling Instability

Leonardo Golubovic

Electron Beam-Directed Vapor Deposition of Multifunctional Structures

D.T. Queheillalt, Y. Katsumi, and H.N.G. Wadley

Nanoindention Studies of DC Sputtered Cu and Cu/Cr Thin Films

G. Wei, J. Du, A. Rar, and J.A. Barnard

*Invited Paper
Nanoindentation and Microstructural Evolution Studies of DC Magnetron Sputtered Chromium Nitride Thin Films
A.B. Agarwal, B.A. Rainey, S.M. Yalisove, and J.C. Bilello

TEXTURE IN POLYCRYSTALLINE FILMS

In Situ Biaxial Texture Analysis of MgO Films During Growth on Amorphous Substrates by Ion Beam-Assisted Deposition
Rhett T. Brewer, Paul N. Arendt, James R. Groves, and Harry A. Atwater

Texture Evolution in Al(Cu) Interconnect Materials
C.E. Murray and K.P. Rodbell

Synthesis and Properties of Al-Based Amorphous and Microcrystalline Thin Films
Christoph Ettl, Lothar Berger, Joachim W. Mrosk, and Hans-Jörg Fecht

GRAIN GROWTH: BARRIER LAYERS

* Nucleation and Growth During Tungsten Atomic Layer Deposition on Oxide Surfaces

Comparison Study for TiN Films Deposited From Different Method: Chemical Vapor Deposition and Atomic Layer Deposition
Byoung-Youp Kim, Seung-Hyun Lee, Sang-Gee Park, Ki-Young Oh, Juho Song, and Do-Heyoung Kim

Crystallographic Texture Characterization of Inlaid Copper Interconnects
Inka Zienert, Paul Besser, Werner Blum, and Ehrenfried Zschech

Effect of RTA on TiN Films as the Barrier Layer for Pt/BST/Pt Capacitors Prepared by RF Magnetron Co-Sputter Technique at Low Substrate Temperature
Miin-Horng Juang, Chuan-Chou Hwang, and Huang-Chung Cheng

*Invited Paper
POSTER SESSION

Properties of InGaN/GaN Quantum Wells Grown by Metalorganic Chemical Vapor Deposition .............................................. O8.2
M.G. Cheong, K.S. Kim, C.S. Kim, R.J. Choi, H.S. Yoon,
S.W. Yu, Y.K. Hong, C.-H. Hong, E.-K. Suh, and H.J. Lee

Reduction of Defect Density in Structures With InAs-GaAs Quantum Dots Grown at Low Temperature for 1.55 μm Range .............. O8.5
N.D. Zakharov, P. Werner, U. Gösele, N.N. Ledentsov,
D. Bimberg, N.A. Cherkashin, N.A. Bert, B.V. Volokov,
V.M. Ustinov, N.A. Maleev, A.E. Zhukov,
and A.F. Tsatsul’nikov

Evolution of Coherent InAs Quantum Dots Above the Coherent Critical Thickness Window by Metalorganic Chemical Vapor Deposition ................................................................. O8.7
T.S. Yeoh, C.P. Liu, Y.W. Kim, and J.J. Coleman

Growth of Compound Semiconductors in Nanometer Sized Channels of Polymers ............................................................. O8.8
R. Engelhardt and R. Könenkamp

Study of Different Phases in a-C:H:N Thin Films Deposited by Plasma-Enhanced Chemical Vapor Deposition: A Comparison Between Theoretical and Experimental Data ........................................................................................................... O8.12
F. Antoniella, L. Valentini, A. Continenza, L. Lozzi,
and S. Santucci

Apparatus Development for Diamond Synthesis From Acetone Vapor With Low Energy Consumption ............................................. O8.13
Fumitomo Onishi, Rie Hayashi, and Yoshiki Takagi

Diamond Synthesis on Oxide Substrates ......................................................... O8.14
Rie Hayashi, Fumitomo Onishi, and Yoshiki Takagi

Formation Mechanism of Silica/Diblock Mesophases by Solvent Evaporation-Induced Self-Assembly .................................................. O8.15
Kui Yu, Celeste A. Drewien, Alan J. Hurd, C. Jeffrey Brinker,
and Adi Eisenberg

The Improvement of Thin Polymer Film Properties Through Plasma Immersion Ion Implantation and Deposition Technique .......... O8.17
Elidiane C. Rangel, Nilson C. Cruz, Rogério P. Mota,
Mauricio A. Algatti, Roberto Y. Honda, Carlos Kuranaga,
and Marcos D. da Silva
Characterization of Chemical and Sensoric Properties of Ion-Beam Modified Polyethersulfone Layers ................................................................. O8.18
Karin Sahre, Klaus-Jochen Eichhorn, Frank Simon, Margaritha Guenther, Gunnar Suchaneck, and Gerald Gerlach

Effects of Substrates Roughness on c-Axis Preferred Orientation of ZnO Films Deposited by RF Magnetron Sputtering ........................................... O8.20
Jae Bin Lee, Sanghyon Kwack, and Hyeong Joon Kim

Effects of Non-Planar Surfaces on the Growth of RF Magnetron Sputtered ZnO ........................................................................................................... O8.21
A.S. Holland, G.K. Reeves, and P.W. Leech

Low Temperature Deposition of ZnO/SiO2 Thin Films on Polymer Surfaces by Plasma Enhanced CVD ................................................................. O8.22
Hidetaka Anma, Yuuji Yoshimoto, Mariko Tanaka, Hiroyuki Takatsuka, and Yoshinori Hatanaka

Remote Plasma Enhanced Chemical Vapor Deposition of TiOx Films From Titanium Tetraisopropoxide ................................................................. O8.24
Masatoshi Nakamura, Shinichi Kato, Toru Aoki, and Yoshinori Hatanaka

Room-Temperature UHV-Deposited Titanium Monoxide Films on Oxidized Polycrystalline Copper ................................................................. O8.25
V.M. Fuenzalida, C.R. Grahmann, C. Herrera, R.A. Zárate, C. Avila, and M.E. Pilleux

Electrochemical Properties of SnO2 Thin Films Doped With Bi and Si for Negative Electrode of Microbattery ......................................................... O8.26
Young-II Kim, Hee-Soo Moon, Kwang-Sun Ji, Yoo-Kee Lee, and Jong-Wan Park

Luminous Efficiency of AC Plasma Display Panels With MgO-TiO2 Protective Layers ......................................................................................... O8.27
Younghyun Kim, Rakhwan Kim, Yonguk Lee, Seonghoon Jung, and Jong-Wan Park

Processing of Yttria Stabilized Zirconia Thin Films by Liquid Fuel Combustion Chemical Vapor Deposition ......................................................... O8.29
Zhigang Xu, Q. Wei, and Jag Sankar

Formation of a Co3O4 Top Layer in SiO2 Cobalt Containing Coatings Sol-Gel Obtained ................................................................. O8.31
H. Tototzintle-Huitle, A. Ramos-Mendoza, A. Mendoza-Galván, J. González-Hernández, and B.S. Chao
Electrode Characteristics of Sputtered Lithium Manganese Oxide Films With Diamond-Like-Carbon Top Layer .................................................. O8.32
Hee-Soo Moon, Kwang-Sun Ji, Won-Il Cho, Young-Soo Yun, and Jong-Wan Park

Microstructure of Heteroepitaxially Grown TiO₂ Films by Magnetron Sputtering ................................................................. O8.35
Makiko Yamagishi, Pung Keun Song, and Yuzo Shigesato

Surface Roughness Control of the Al and Al₂O₃ Thin Films Deposited by Using Pulsed DC Magnetron Sputtering .................. O8.36
Jinjun Qiu, Kebin Li, Guichang Han, Zaibing Guo, and Yihong Wu

Zinc Oxide/Copper Oxide Mixed Films Deposited by CVD ................................................................. O8.37
Yuneng Chang and Chihhsiang Yeh

Material and Electrical Characterization of Carbon-Doped Ta₂O₅ Films for Embedded DRAM Applications .................................................. O8.39
Karen Chu, Byeong-Ok Cho, Jane P. Chang, Mike L. Steigerwald, Robert M. Fleming, Robert L. Opila, Dave V. Lang, R. Bruce Van Dover, and Chris D.W. Jones

Heteroepitaxial Growth and Phase Transition Properties of Vanadium Dioxide Thin Films on Different Orientations of Sapphire Substrates ................................................................. O8.40
Z.P. Wu and H. Naramoto

Microstructure and Surface Evolution in the Crystallization of α-Fe₂O₃/α-Al₂O₃(0001) Thin Films ................................................................. O8.42
Tae Sik Cho, Seok Joo Doh, and Jung Ho Je

MISCELLANEOUS

Calculations of Surface Structure for SrTiO₃ Perovskite ................................................................. O9.1
E. Heifets, R.I. Eglitis, E.A. Kotomin, and G. Borstel

Preparation and Characterization of (Ba,Sr)TiO₃ Thin Films by Liquid Source Chemical Vapor Deposition ................................................................. O9.2
Cheol-Hoon Yang, Young-Ki Han, Dong-Hyun Kim, Geun-Jo Han, Doo-Young Yang, Ki-Young Oh, Juho Song, Jaehoo Park, and Cheol-Seong Hwang

Dielectric and Ferroelectric Studies of Pb₀.₉₈La₀.₀₂TiO₃ Thin Films on Solution Derived RuO₂ Bottom Electrodes ................................................................. O9.3
The Size Effect of the Polarization of SrBi$_2$Ta$_{3-x}$Nb$_x$O$_9$ Capacitor ......................... O9.6
Keisuke Tanaka, Masamichi Azuma, Yasuhiro Shimada,
Tatsuo Otsuki, and Carlos A. Paz de Araujo

A Surface Insulator-to-Conductor Phase Transition in Colossal
Magnetoresistive Manganese Perovskites Thin Films ................................. O9.8
C.N. Borca, Bo Xu, Takashi Komesu, Hae-Kyung Jeong,
S.-H. Liou, and P.A. Dowben

In Situ Study of the Stiffness of Alumina Thin Films During
Vapor Deposition ......................................................................................... O9.9
Joris Proost and Frans Spaepen

The Decomposition of tBAA on the Silicon Surface ................................. O9.12
Che-Chen Chang and Ing-Jye Huang

SILICIDES AND ORGANIC THIN FILMS:
PULSED LASER DEPOSITION

Growth and Characterization of Semicontinuous Metal Films by
Pulsed Laser Ablation ................................................................................. O10.7
S.K. So, H.H. Fong, and N.H. Cheung

Heteroepitaxial Growth of TaN on MgO(001) and
TiN(001)/Si(001) by Pulsed Laser Deposition ............................................. O10.9
H.Y. Cheung and K.H. Wong

Synthesis of Tin Oxide Thin Films by Pulsed Laser Deposition
Using SnO$_2$ Targets ................................................................................. O10.10
Yoshiaki Suda, Hiroharu Kawasaki, Kazuya Doi, Jun Nanba,
Kenji Wada, Kenji Ebihara, and Tamiko Ohshima

Pulsed-Laser Deposition of TiNi Shape Memory Alloy Thin Films ............ O10.12
X.Y. Chen, Y.F. Lu, Z.M. Ren, L. Zhang, J.P. Wang,
and T.Y.F. Liew

Author Index

Subject Index
PREFACE

Symposium O, "Mechanisms of Surface and Microstructure Evolution in Deposited Films and Film Structures", held April 17–20 at the 2001 MRS Spring Meeting in San Francisco, California, brought together in a four-day symposium more than 70 authors and many more attendees to focus on topics relevant to surface and microstructure evolution in epitaxial and polycrystalline thin films.

A wide variety of materials systems and deposition strategies have been developed to produce epitaxial and polycrystalline thin films. In particular, controlling the morphology and microstructure of metal films at the nanometer and/or micron scale has become crucial for such applications as giant magnetoresistive devices, contacts and diffusion barriers in integrated circuits and photovoltaics, and multilayer x-ray mirrors. This symposium was successful in providing a forum to discuss the interactions between different mechanisms of microstructure evolution and film-growth conditions.

Two sessions, including a joint session with Symposium R, "Morphology and Dynamics of Crystal Surfaces in Molecular and Colloid Systems," focused on the fundamental mechanisms of epitaxial growth. Other sessions focused on both epitaxial and polycrystalline thin films including sessions on multilayer growth and stress, nucleation and mechanical properties, texture in polycrystalline growth, and grain growth in metal thin films and barrier layers.

We would like to thank all of the participants and contributors who made the symposium so successful, as well as the authors and referees who worked with us to make these proceedings possible. The papers in this volume are ordered according to the order of presentation at the Meeting, and were refereed by peer review.

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John Sanchez, Jr.

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