

## TABLE OF CONTENTS

	page
<b>PREFACE</b>	iii
<b>PART 1: DEFECTS IN AS GROWN CRYSTALS</b>	1
Point defects in silicon crystal growth* <i>V.V. Voronkov and R. Falster</i>	3
Control of grown-in defects in nitrogen-doped CZ silicon crystal for new generation devices* <i>M. Hourai, T. Ono, S. Umeno, T. Tanaka, E. Asayama, H. Nishikawa, M. Sano and H. Tsuya</i>	19
Defects in silicon crystals and their impact on device characteristics* <i>E. Dornberger, D. Temmler and W. von Ammon</i>	35
<b>PART 2: PROCESS AND RADIATION-INDUCED DEFECTS</b>	51
Hydrogen in silicon: present understanding and impact on devices* <i>J. Weber</i>	53
Radiation-induced defects in Ge- and Sn-doped N-Type Si <i>A. Nylandsted Larsen*</i>	68
The effect of substrate radiation-induced defects on the operation of deep submicron silicon technologies* <i>E. Simoen, C. Claeys and A. Poyai</i>	75

\* invited paper

*page*

Proton-irradiation effect on the electric-field enhancement of the generation lifetime in shallow P-N junction diodes <i>A. Poyai, E. Simoen, C. Claeys, K. Hayama, K. Kobayashi and H. Ohyama.</i>	93
Control of crystalline defects in trench isolated thick film SOI for high voltage smart power ICs <i>X. Cao, D. Nicholson, W.A. Nevin and J. Knopke</i>	103
Radiation-induced defects utilized for performance tailoring in high-power devices <i>F.-J. Niedernostheide, H.-J. Schulze, U. Kellner-Werdehausen, A. Frohnmeyer and G. Wachutka</i>	112
<b>PART 3: CHARACTERIZATION AND MONITORING TECHNIQUES</b> 121	
Local strain measurement by synchrotron X-ray microbeam* <i>J. Matsui, Y. Tsusaka, K. Yokoyama, S. Takeda M. Urakawa, Y. Kagoshima and S. Kimura</i>	123
Implantation induced defects in silicon detected by Cu decoration technique <i>R. Kögler, A. Peeva, F. Eichhorn, J. Kaschny, M. Voelksow, W. Skorupa and H. Hutter</i>	133
Electrical characterization of thin SOI wafer* <i>S. Kishino, H. Yoshida and T. Uchihashi</i>	143
Non destructive photothermal radiometric measurements of defects and metallic contaminating impurities on silicon wafers* <i>C. Christofides, A. Othonos and K. Kalli</i>	153

\* invited paper

	page
High resolution Laplace deep level transient spectroscopy a new tool to study implant damage in silicon*	
<i>A.R. Peaker, J.-H. Evans-Freemann, L. Dobaczewski, V. Markevich, O. Andersen, L. Rubaldo, P.Y.Y. Kan, I.D. Hawkins, K. Goæciñski and K. Bonde Nielsen</i>	166
<b>PART 4: METAL CONTAMINATION</b>	179
Metal contamination issues resulting from new Si processes*	
<i>J.L. Benton, T. Boone, D.C. Jacobson, Wen Lin, G.D. Wilk, H.W. Krautter, J.M. Rosamilia and C.S. Rafferty</i>	181
Integration of novel materials in CMOS technology: contamination aspects	
<i>W. Pamler and H. Boubekeur</i>	192
SIMS studies of Sr, Bi and Ta diffusion from SBT in $\text{SiO}_2$	
<i>R. Büngener, W. Pamler, F. Jahnel, B. Weidinger and U. Gösele</i>	206
New materials in future memories: high temperature behaviour of Sr, Bi and Ir on silicon surfaces monitored by TXRF and elymat	
<i>G. Kilian, B.O. Kolbesen, M. Rommel, W. Pamler, E. Unger and A. Höpfner</i>	215
Detection of metal segregation at the oxide-silicon interface	
<i>M.L. Polignano, A. Giussani, D. Caputo, C. Clementi G. Pavia and F. Priolo</i>	223
Iron concentration mapping in monocrystalline silicon wafers	
<i>O. Palais, J.J. Simon, E. Yakimov and S. Martinuzzi</i>	233

\* invited paper

	page
The role of nickel contamination in IC-fabrication on SOI-material <i>I. Rink, A. Janssen, A. De Veirman, R. Zingg, T. Lavrijsen, T. Schoenmakers and P. Boos</i>	241
Electrical activity of silicide precipitates: experiment, simulation, mechanism* <i>W. Schröter, M. Seibt, V. Kveder, A. Sattler, H. Hedemann, T. Kietzke and F. Riedel</i>	251
Modeling of metal impurity gettering* <i>A.A. Istratov, H. Hieslmair and E.R. Weber</i>	267
Use of thermodynamical simulation to understand silicon/metal interactions and avoid metallic contamination during silicon wafer annealings <i>P. Mur, A. Pisch, C. Chatillon, A. Tarnowka and M.N. Semeria</i>	282
<b>PART 5: ORGANIC CONTAMINATION</b>	<b>292</b>
Organic contamination on wafers surfaces: measurement techniques and deposition kinetics* <i>J. Bügler, G. Zielonka, L. Pfitzner, H. Ryssel and M. Schottler</i>	294
Measurement of organic contamination in microelectronics technology: standardization issues* <i>K. Budde, W. Holzapfel and A. Röhrig</i>	308
Organic contamination: impact, characterization, sources and cleaning during IC manufacturing* <i>M. Claes and S. De Gendt</i>	320

\* invited paper

*page*

Monitoring carboxylic acids on the surface of silicon wafer <i>T. Ehmann, L. Fabry, L. Kotz and S. Pahlke</i>	336
Analysis of time dependent haze on silicon surfaces <i>N. Münter, B.O.Kolbesen, W. Storm and T.Müller</i>	342
<b>AUTHOR INDEX</b>	<b>352</b>
<b>SUBJECT INDEX</b>	<b>355</b>