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January—December, 1991

167(F) Tadahiro Ohmi, “New Piping Joint System “Super JSK”,” Ultra Clean Technology, Vol. 1, No. 4, pp. 193-194, 1991.

168(F) Tadahiro Ohmi, Keiichi Hashimoto, Makoto Morita, and Tadashi Shibata, “Study on Further Reducing the Epitaxial Silicon Temperature down to 250 C in Low-Energy Bias Sputtering,” Journal of Applied Physics, Vol. 69, No. 4, pp. 2062-2071, February 1991.

169(F) Haruo Tomari, Hirofumi Hamada, Yoshiyuki Nakahara, Kazuhiko Sugiyama and Tadahiro Ohmi, “Metal Surface Treatment for Semiconductor Equipment: Oxygen Passivation,” Solid State Technology, Vol. 34, No. 2, pp. S1-S5, February 1991.

170(F) Masanobu Onodera, Tooru Nonaka, Motonobu Horikoshi, Tadahiro Ohmi, Akira Yokota, and Takahisa Nitta, “Outgas Free Photoresist Processing,” Solid State Technology, Vol. 34, No. 2, pp. S7-S10, February 1991.

171(F) Haruhiro Goto, Makoto Sasaki, and Tadahiro Ohmi, “Plasma Processing Equipment for Minimum Damage and Chamber Contamination,” Solid State Technology, Vol. 34, No. 2, pp. S13-S16, February 1991.

172(F) Hirohisa Kikuyama, Nobuhiro Miki, Kiyonori Saka, Jun Takano, Ichiro Kawanabe, Masayuki Miyashita, and Tadahiro Ohmi, “Principles of Wet Chemical Processing in ULSI Microfabrication,” IEEE Trans. on Semiconductor Manufacturing, Vol. 4, No. 1, pp. 26-35, February 1991.

173(C) Kenichi Ushikoshi, Akira Yamada, Masanori Sugisawa, Akihiko Hogetsu, Takashi Imaoka, Isamu Sugiyama, Tatsuhiko Isagawa, and Tadahiro Ohmi, “Ultrapure Water Treatment System Made of Passivated Stainless Steel (Gold EP),” Conference Proceedings, Tenth Annual Semiconductor Pure Water Conference, Santa Clara, pp. 23-41, February 1991.

174(C) T. Imaoka, Y. Yagi, Y. Kasama, I. Sugiyama, T. Isagawa, and T. Ohmi, “Advanced Ultrapure Water Systems for ULSI Processing,” Conference Proceedings, Tenth Annual Semiconductor Pure Water Conference, Santa Clara, pp. 128-146, February 1991.

175(C) Tadahiro Ohmi, “Ultrapure Water Production/Supply Technology in Support of ULSI Manufacturing,” Conference Proceedings, Tenth Annual Semiconductor Pure Water Conference, Santa Clara, pp. 251-273, February 1991.

176(C) N. Miki, T. Yonezawa, A. Watanabe, M. Maeno, I. Kawanabe, and T. Ohmi, “Trace Metal Impurities in Ultra Pure Water for ULSI Manufacturing Processes,” Conference Proceedings, Tenth Annual Semiconductor Pure Water Conference, Santa Clara, pp. 335-353, February 1991.

177(C) T. Ohmi, I. Kawanabe and M. Miyashita, “Ultra-LSI and Nanotechnology,” Proceedings of the 16th SEIKEN Symposium (International) on Nanotechnology, pp. 99-105, Tokyo Institute of Technology, Yokohama, March 1991.

178(C) Noriyuki Yabumoto, Kazuyuki Saito, Mizuho Morita, and Tadahiro Ohmi, “Oxidation Process of Hydrogen Terminated Silicon Surface Studied by Thermal Desorption Spectroscopy,” Jpn. J. Appl. Phys., Vol. 30, No. 3B, pp. L419-L422, March 1991.

179(F) Tadahiro Ohmi, “Ultra Clean Processing,” Microelctronic Engineering, Vol. 10, pp. 163-176, 1991.

180(F) Tadahiro Ohmi and Tadashi Shibata, “Requirements of CAM in IC Technology,” Microelectronic Engineering, Vol. 10, pp. 177-196, 1991.

181(F) Frederick W. Kern, Jr., Mitsushi Itano, Ichiro Kawanabe, Masayuki Miyashita, Reed W. Rosenberg, and Tadahiro Ohmi, “Metallic Contamination of Semiconductor Devices from Processing Chemicals-The Unrecognized Potential,” 1991 Spring National Convention Record, The Institute of Electronics, Information and Communication Engineers, Tokushima, pp. 335-336, March 1991.

182-1(C) Naozumi Terada, Takashi Haga, Noriyuki Miyata, Kazunori Moriki, Masami, Fujisawa, Mizuho Morita, Tadahiro Ohmi and Takeo Hattori, “Silicon-Silicon Bonds in the Oxide near the SiO$_2$/Si Interface,” 3rd International Conference Formation of Semiconductor Interfaces, Rome, Italy, March 1991.

182-2(F) Naozumi Terada, Takashi Haga, Noriyuki Miyata, Kazunori Moriki, Masami Fujisawa, Mizuho Morita, Tadahiro Ohmi, and Takeo Hattori, “Silicon-Silicon Bonds in the Oxide near the SiO$_2$/Si Interface,” Applied Surface Science, Vol. 56-58, pp. 832-835, March 1992.

183(F) Tadahiro Ohmi, Tatsuyuki Saito, Masahito Otsuki, Tadashi Shibata, and Takahisa Nitta, “Formation of Copper Thin Films by a Low Kinetic Energy Particle Process,” Journal of the Electrochemical Society, Vol. 138, No. 4, pp. 1089-1097, April 1991.

184(C) Tadahiro Ohmi, “All Metal and Oxygen Passivated Ultra Clean Gas Delivery System for ULSI Manufacturing,” Program and Abstract Book, Gas Separation International, Austin, pp. 46-47, April 1991.

185(C) Masakazu Nakamura, Tadahiro Ohmi, and Koji Kawada, “All Metal and Oxygen Passivation Tubing Technology for Ultra Clean Gas Delivery System,” 1991 Proceedings, 37th Annual Technical Meeting “Technical Solutions Through Technical Cooperation,” San Diego, pp. 605-613, May 1991.

186(C) Takashi Imaoka, Isamu Sugiyama, Tatsuhiko Isagawa, Tadahiro Ohmi, Akihiko Hogetsu, Kenichi Ushikoshi, and Akira Yamada, “Ultrapure Water System Using Passivated Stainless Steel Piping,” 1991 Proceedings, 37th Annual Technical Meeting Technical Solutions Through Technical Cooperation,” San Diego, pp. 784-790, May 1991.

187-1(C) Tadahiro Ohmi, “Super Cleaning Technology and Its Impact on Electronics Engineering and Science,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 199, pp. 276-277, May 1991.

187-2(P) Tadahiro Ohmi, “Super Cleaning Technology and Its Impact on Electronics Engineering and Science,” W. Murray Bullis, Ulrich Gosele and Fumio Shimura, eds., Defects in Silicon II, PV91-9, pp. 351-360, The Electrochemical Society, Pennington, NJ, 1991.

188(C) Koji Kotani, Tadashi Shibata, and Tadahiro Ohmi, “Gate-Charging-Induced MOS Device Degradation in Ion-Bombardment Processes,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 231, pp. 333-334, May 1991.

189-1(C) Hideshi Kuwabara, Masahito Otsuki, and Tadahiro Ohmi, “Ideal Metal/Silicon Contact Formation by Clean-Nitrogen-Steal Processing,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 311, pp. 463-464, May 1991.

189-2(P) Hideshi Kuwabara, Masahito Otsuki, and Tadahiro Ohmi, “Ideal Metal/Silicon Contact Formation by Clean-Nitrogen-Seal Processing,” John M. Andrews and George K. Celler, eds., UlSI Science and Technology/1991, PV91-11, pp. 321-329, The Electrochemical Society, Pennington, NJ, 1991.

190-1(C) Mizuho Morita, Akinobu Teramoto, Koji Makihara, Tadahiro Ohmi, Y. Nakazato, A. Uchiyama, and T. Abe, “Effects of Si Wafer Surface Micro-Roughness on Electrical Properties of Very-Thin Gate Oxide Films,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 320, pp. 479-480, May 1991.

190-2(P) Mizuho Morita, Akinobu Teramoto, Koji Makihara, Tadahiro Ohmi, Y. Nakazato, A. Uchiyama, and T. Abe, “Effects of Si Wafer Surface Micro-Roughness on Electrical Properties of Very-Thin Gate Oxide Films,” John M. Andrews and George K. Celler, eds., ULSI Science and Technology/1991, PV91-11, pp. 400-408, The Electrochemical Society, Pennington, NJ, 1991.

191-1(C) Takashi Matsuura, Hiroaki Uetake, Junichi Murota, Tadahiro Ohmi, and Shoichi Ono, “Anisotropic Etching Process of n^+-Polysilicon with Chlorine and Nitrogen Mixed ECR Plasma,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 346, pp. 521-522, May 1991.

191-2(P) Takashi Matsuura, Hiroaki Uetake, Tadahiro Ohmi, Junichi Murota, and Shoichi Ono, “Anisotropic Etching Process of n^+-Polysilicon with Chlorine and Nitrogen Mixed ECR Plasma,” John M. Andrews and George K. Celler, eds., ULSI Science and Technology/1991, PV91-11, pp. 236-243, The Electrochemical Society, Pennington, NJ, 1991.

192-1(C) K.Fukuda, Takashi Matsuura, Junichi Murota, Hiroaki Uetake, Tadahiro Ohmi, and Shoichi Ono, “Low-Temperature Silicon Epitaxy without Substrate Heating by Ultraclean ECR-Plasma- Enhanced CVD,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 379, pp. 575-576, May 1991.

192-2(P) Koichi Fukuda, Junichi Murota, Shoichi Ono, Takashi Matsuura, Hiroaki Uetake, and Tadahiro Ohmi, “Low-Temperature Silicon Epitaxy without Substrate Heating by Ultraclean ECR-Plasma-Enhanced CVD,” John M. Andrews and George K. Celler, eds., ULSI Science and Technology/1991, PV91-11, pp. 834-840, The Electrochemical Society, Pennington, NJ, 1991.

193(C) Hisayuki Shimada, Masanobu Onodera, Kouichi Hirose, Touru Nonaka, and Tadahiro Ohmi, “Optimizing Resist Development Process for Reliable Fine-Pattern Formation,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 445, pp. 680-681, May 1991.

194(C) Tadahiro Ohmi, Masanobu Onodera, Touru Nonaka, Motonobu Horikoshi, Takahisa Nitta, and A. Yokota, “Outgas-Free Resist Processing for Ultra Clean Process Technology,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 448, pp. 684-685, May 1991.

195(C) Kenichi Sato, F. Kern, Y. Yamazaki, G. Satoh, T. Kaji, H. Horiki, and Tadahiro Ohmi, “Detailed Study of Silicon-Nitride-Etching Mechanism by Phosphoric Acid for Advance ULSI Processing,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 462, pp. 707-708, May 1991.

196(C) Masayuki Miyashita, Mitsushi Itano, Takashi Imaoka, Ichiro Kawanabe, and Tadahiro Ohmi, “Optimizing NH_4OH/H_2O_2 Cleaning Process for Ultra-Clean Wafer Surface Preparation,” Extended Abstracts, 179th Electrochemical Society Meeting, Washington, DC, Abstract No. 463, pp. 709-710, May 1991.

197(F) Tooru Nonaka, Masanobu Onodera, Motonobu Horikoshi, and Tadahiro Ohmi, “Outgas Free Resist Processing for High Quality ULSI Manufacturing,” Ultra Clean Technology, Vol. 2, No. 1, pp. 28-40, 1991.

198(F) Kenichi Ushikoshi, Akira Yamada, Masanori Sugisawa, Akihiko Hogetsu, Takashi Imaoka, Isamu Sugiyama, Tatsuhiko Isagawa, and Tadahiro Ohmi, “Ultrapure Water Treatment System Made of Passivated Stainless Steel (GOLD EP),” Ultra Clean Technology, Vol. 2, No. 1, pp. 60-66, 1991.

199(C) Masayuki Miyashita, Mitsushi Itano, Takashi Imaoka, Ichiro Kawanabe, and Tadahiro Ohmi, “Dependence of Thin Oxide Films Quality on Surface Micro-Roughness,” 1991 Symposium on VLSI Technology, Oiso, pp. 45-46, May 1991.

200(F) Yoshio Nakamura, Hayao Ohzu, Mamoru Miyawaki, Nobuyoshi Tanaka, and Tadahiro Ohmi, “Design of Bipolar Imaging Device (BASIS),” IEEE Trans. on Electron Devices, Vol. 38, No. 5, pp. 1028-1036, May 1991.

201(F) Mamoru Miyawaki and Tadahiro Ohmi, “Reduction of Fixed-Pattern Noise of BASIS Due to Low Kinetic Energy Reactive Ion and Native-Oxide-Free Processing,” IEEE Trans. on Electron Devices, Vol. 38, No. 5, pp. 1037-1043, May 1991.

202(F) Haruhiro H. Goto, Makoto Sasaki, Tadahiro Ohmi, Tadashi Shibata, Atsushi Yamagami, Nobuyuki Okamura, and Osamu Kamiya, “A Low Damage, Low Contaminant Plasma Processing System Utilizing Energy Clean Technology,” IEEE Trans. on Semiconductor Manufacturing, Vol. 4, No. 2, pp. 111-121, May 1991.

203(C) Takashi Matsuura, Junichi Murota, Tadahiro Ohmi, and Shoichi Ono, “Low-Temperature Silicon Epitaxy without Substrate Heating and Selectivity Inversion in Ultraclean ECR Plasma Enhanced CVD,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 38-40, August 1991.

204(C) Tohru Yoshie, Masaki Hirayama, and Tadahiro Ohmi, “Ion Flux Effect in Low Temperature Silicon Epitaxy by Low-Energy Ion Bombardment,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 41-43, August 1991.

205(C) Kazuya Masu, Yohei Hiura, Kazuo Tsubouchi, Tadahiro Ohmi, and Nobuo Mikoshiba, “In-Situ Observation of Electromigration in Cu Film with Scanning-RHEED Microscope,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 126-128, August 1991.

206(C) Masahito Otsuki, Toshiyuki Takewaki, Hideshi Kuwabara, Tadashi Shibata, Tadahiro Ohmi, and Takahisa Nitta, “High Performance Copper Metallization for ULSI Interconnects,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 186-188, August 1991.

207(C) Tadahiro Ohmi, “Ultra-Clean Low Temperature Si Processes under the Assistance of Energy Controlled Ion Bombardment,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 481-483, August 1991.

208(C) Atsunobu Ohkura, Hidehiko Oku, Koichi Matsumoto, and Tadahiro Ohmi, “The Optimization of In-Situ Thermal Cleaning Focused on Surface Microroughness for Future Si Epitaxial Growth,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 559-561, August 1991.

209(C) Yoshiyuki Kato, Satoshi Shimonishi, Tadahiro Ohmi, Tadashi Shibata, and Takahisa Nitta, “Elimination of Metal-Sputtering Contamination in Ion Implanter for Low-Leakage-Current pn Junction Formation,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 565-567, August 1991.

210(C) Naozumi Terada, Hiroki Ogawa, Kazunori Moriki, Akinobu Teramoto, Koji Makihara, Mizuho Morita, Tadahiro Ohmi, and Takeo Hattori, “Effect of Silicon Wafer In-Situ Cleaning on the Structure of Ultrathin Silicon Oxide Films,” Extended Abstracts, the 1991 International Conference on Solid State Devices and Materials, Yokohama, pp. 571-573, August 1991.

211-1(C) Takashi Onoda, Masahiro Shishido, Masayuki Toda, Yoh-ichi Kanno, Masaru Umeda, and Tadahiro Ohmi, “Wafer Transport System on a Gas Film,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 418, pp. 610-611, October 1991.

211-2(P) Takashi Onoda, Masahiro Shishido, Masayuki Toda, Yoh-ichi Kanno, Masaru Umeda, and Tadahiro Ohmi, “Wafer Transport System on a Gas Film,” V. E. Akins and H. Harada, eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 51-63, The Electrochemical Society, Pennington, NJ, 1992.

212-1(C) Hitoshi Inaba, T. Yoshida, Takao Okada, Tadahiro Ohmi, Mizuho Morita, and Masakazu Nakamura, “Neutralization of Wafer Charging in Nitrogen-Gas Wafer Transport System,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 419, pp. 612-613, October 1991.

212-2(P) Hitoshi Inaba, Tadahiro Ohmi, Mizuho Morita, Masakazu Nakamura, Takanori Yoshida, and Takao Okada, “Neutralization of Wafer Charging in Nitrogen Gas,” V. E. Akins and H. Harada, eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 65-84, The Electrochemical Society, Pennington, NJ, 1992.

213-1(C) Hiroaki Uetake, Kohei Morizuka, and Tadahiro Ohmi, “In Situ Substrate Surface Cleaning for Low Temperature Silicon Epitaxy by Hydrogen-Added Low-Temperature Argon Ion Bombardment,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 426, pp. 623-624, October 1991.

213-2(P) Hiroaki Uetake, Kohei Morizuka, and Tadahiro Ohmi, “In Situ Substrate Surface Cleaning for Low Temperature Silicon Epitaxy by Hydrogen Added Low-Energy Argon Ion Bombardment,” V. E. Akins and H. Harada, eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 65-84, The Electrochemical Society, Pennington, NJ, 1992.

214-1(C) Yasuo Aoki, Shotaro Aoyama, Hidetoshi Wakamatsu, Jinzo Watanabe, and Tadahiro Ohmi, “Formation of High Quality Refractory-Metal Thin Films by Low-Energy Ion Bombardment,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 427, pp. 625-626, October 1991.

214-2(P) Yasuo Aoki, Shotaro Aoyama, Hidetoshi Wakamatsu, Jinzo Watanabe, and Tadahiro Ohmi, “Formation of High Quality Refractory-Metal Thin Films by Low-Energy Ion Bombardment,” V. E. Akins and H. Harada eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 162-175, The Electrochemical Society, Pennington, NJ, 1992.

215-1(C) Haruhiro Goto, H.-D. Lowe, and Tadahiro Ohmi, “Low-Energy Reactive Ion Etching by Dual Frequency Plasma Excitation,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 428, pp. 627-628, October 1991.

215-2(P) Haruhiro Goto, H.-D. Lowe, and Tadahiro Ohmi, “Low-Energy Reactive Ion Etching by Dual Frequency Plasma Excitation,” V. E. Akins and H. Harada eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 176-191, Pennington, NJ, 1992.

215-1(C) Takeo Yamashita, Satoshi Hasaka, Iwao Natori, and Tadahiro Ohmi, “Extracted-Plasma-Parameter Analysis for Minimizing Damage and Contamination in RIE Process,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 429, pp. 629-630, October 1991.

216-2(P) Takeo Yamashita, Satoshi Hasaka, Iwao Natori, Hirofumi Fukui, and Tadahiro Ohmi, “Extracted-Plasma-Parameter Analysis for Minimizing Damage and Contamination in RIE Process,” V. E. Akins and H. Harada eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 192-229, Pennington, NJ, 1992.

217-1(C) Masayuki Toda, Masahito Shishido, Yuka Hayami, Kenji Masuda, Yoh-ichi Kanno, and Tadahiro Ohmi, “Penetration and Diffusion of Impurities into a Furnace System,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 430, pp. 631-632, October 1991.

217-2(P) Masayuki Toda, Masahiko Shishido, Shigenori Tokunaga, Yuka Hayami, Kenji Masuda, oh-ichi Kanno, and Tadahiro Ohmi, “Penetration and Diffusion of Impurities into a Furnace System,” V. E. Akins and H. Harada eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 230-243, Pennington, NJ, 1992.

218-1(C) I. Itoh, K. Mukaiyama, Tadahiro Ohmi, Mizuho Morita, and Koji Makihara, “Ultraclean All-Metal Gate Value for ULSI Manufacturing,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 432, pp. 635-636, October 1991.

218-2(P) I. Itoh, K. Mukaiyama, Tadahiro Ohmi, Mizuho Morita, and Koji Makihara, “Ultraclean All-Metal Gate Valve for ULSI Manufacturing,” V. E. Akins and H. Harada eds., Automated Integrated Circuits Manufacturing, PV92-8, pp. 256-269, Pennington, NJ, 1992.

219(C) Tadahiro Ohmi and Tadashi Shibata, “In Situ Substrate Surface Cleaning by Low Energy Ion Bombardment for High Quality Thin Film Formation,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 528, pp. 788-789, October 1991.

220(C) Masakazu Nakamura, Koji Kawada, Atsushi Ohki, Akira Hioki, K. Hirao, and Tadahiro Ohmi, “Kinetics of Molecule Adsorption and Desorption on Metal Surfaces,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 533, pp. 796-797, October 1991.

221(C) Masakazu Nakamura, Koji Kawada, Atsushi Ohki, Akira Hioki, Keiji Hirao, and Tadahiro Ohmi, “Kinetic Adsorption and Desorption on Si and SiO_2 Surface,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 534, pp. 798-799, October 1991.

222-1(C) Keiichi Yamada, Tadahiro Ohmi, Mizuho Morita, H. Suzuki, and C. M. Soh, “Cleaning Effects of Molecular Pre-Showering onto Silicon Surface on Low-Temperature Si Epitaxy,” Extended Abstracts, 180th Electrochemical Society Meeting, Phoenix, Abstract No. 555, pp. 829-830, October 1991.

222-2(P) Keiichi Yamada, Tadahiro Ohmi, Mizuho Morita, Hiroshi Suzuki, and C. M. Soh, “Cleaning Effects of Molecular Pre-Showering onto Silicon Surface on Low-Temperature Si Epitaxy,” Jerzy Ruzyllo and Richard E. Novak, eds., Cleaning Technology in Semiconductor Device Manufacturing, PV92-12, pp. 437-444, The Electrochemical Society, Pennington, NJ, 1992.

223(C) Tadahiro Ohmi, Masayuki Miyashita, and Takashi Imaoka, “Foresightedness in RCA Cleaning Concept and Importance of Surface Microroughness in ULSI Device Performance,” Microcontamination 91 Proceedings, San Jose, pp. 491-510, October 1991.

224(C) Mitsushi Itano, Masayuki Miyashita, and Tadahiro Ohmi, “Particle Deposition and Removal on Wafer Surface in RCA Cleaning Process,” Microcontamination 91 Proceedings, San Jose, pp. 521-543, October 1991.

225(C) Takashi Imaoka, Tatsuhiko Isagawa, and Tadahiro Ohmi, Oxygen-Passivated Stainless-Steel Pure-Water Distribution System Having In-Line O_3 Sterilization Capability,” Microcontaminaiton 91 Proceedings, San Jose, pp. 631-644, October 1991.

226(C) Motonobu Horikoshi, Tadahiro Ohmi, and Seiji Aotani, “New System for Standard Particle Aerosol Generation with Super Critical Fluid,” Microcontamination 91 Proceedings, San Jose, pp. 666-677, October 1991.

227(C) Kazuo Tsukazaki, Seiji Aotani, and Tadahiro Ohmi, “Non-Destructive Filtration Capability Test Method for Gas,” Microcontamination 91 Proceedings, San Jose, pp. 678-694, October 1991.

228(C) Tadahiro Ohmi and Tadashi Shibata, “Advanced Semiconductor Manufacturing,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 3-62, October 1991.

229(C) Masayuki Toda, Masahiro Shishido, Yoh-ichi Kanno, Masaru Umeda, Tadahiro Ohmi, and Takahisa Nitta, “Wafer Transportation on N_2 Gas Film,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 23-35, October 1991.

230(C) Hitoshi Inaba, Takanori Yoshida, Takao Okada, Tadahiro Ohmi, Mizuho Morita, and Masakazu Nakamura, “Neutralization of Wafer Charging in Nitrogen Gas,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 39-51, October 1991.

231(C) Tadashi Shibata and Tadahiro Ohmi, “Vacuum Pumping System for Semiconductor Processing,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 73-80, October 1991.

232(C) Ichiro Itoh, Katsuhiko Mukaiyama, and Tadahiro Ohmi, “Particle Generation Free Gate Valve,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 105-120, October 1991.

233(C) Matagoro Maeno, Kazuo Chiba, and Tadahiro Ohmi, “Fluorine-Passivation Technology of Metal Surface for Self-Cleaning (Passivation of Ni-P Film on Al Alloy),” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 143-164, October 1991.

234(C) Shintaroh Aoyama, Hiroaki Uetake, and Tadahiro Ohmi, “Wafer Surface Cleaning by Low Energy Plasma,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 167-182,

235(C) Hiroaki Uetake, Hidetoshi Wakamatsu, and Tadahiro Ohmi, “Dual-Frequency-Excitation Plasma Process Equipment,” Proceeding, 14th Symposium on ULSI Ultra Clean Technology, Advanced Semiconductor Manufacturing System, Omiya, pp. 185-195, October 1991.

236(C) Tadahiro Ohmi, “Importance of Ultra Clean Technology in Advanced ULSI Processing,” Symposium on Advanced Science and Technology of Silicon Materials,” Kona(Hawaii), pp. 264-275, November 1991.

237(C) Norikuni Yabumoto, Kazuyuki Saito, Mizuho Morita, and Tadahiro Ohmi, “Direct Observation for Oxidation of Hydrogen Terminated Silicon Surfaces Using Thermal Desorption Spectroscopy,” Symposium on Advanced Science and Technology of Silicon Materials,” Kona(Hawaii), pp. 315-326, November 1991.

238(L) Koichi Fukuda, Junichi Murota, Shoichi Ono, Takashi Matsuura, Hiroaki Uetake, and Tadahiro Ohmi, “Electron-Cyclotron-Resonance Plasma-Enhanced Chemical Vapor Deposition of Epitaxial Si without Substrate Heating by Ultraclean Processing,” Appl. Phys. Letters, Vol. 59, No. 22, pp. 2853-2855, November 1991.

239(F) Hans-Dirk Lowe, Haruhiro H. Goto, and Tadahiro Ohmi, “Control of Ion Energy and Flux in a Dual Radio Frequency Excitation Magnetron Sputtering Discharge,” Journal of Vacuum Science & Technology A, Vol. 9, No. 6, pp. 3090-3099, November/December 1991.

240(C) Tadahiro Ohmi, Masakazu Nakamura, Atsushi Ohki, Koji Kawada, Keiji Hirano, and Tsuyoshi Watanabe, “Thermal Decomposition of SiH_4 and Si_2H_6 and the Influence of Residual Moisture and Oxygen,” Proceeding, 15th Workshop on ULSI Ultra Clean Technology, Tokyo, pp. 125-133, November 1991.

241(C) Tadahiro Ohmi, Tsukasa Hoshi, Tohru Yoshie, T. Takewaki, Masahito Otsuki, Tadashi Shibata, and Takahisa Nitta, “Large-Electromigration-Resistance Copper Interconnect Technology for Sub-Half-Micron ULSI's,” Technical Digest, International Electron Devices Meeting 1991, Washington DC, pp. 285-288, December 1991.

242(C) Tadashi Shibata and Tadahiro Ohmi, “An Intelligent MOS Transistor Featuring Gate-Level Weighted Sum and Threshold Operation,” Technical Digest, International Electron Devices Meeting 1991, Washington DC, pp. 919-922, December 1991.

243(L) Tadahiro Ohmi, Koji Kotani, Akinobu Teramoto, and Masayuki Miyashita, “Dependence of Electron Channel Mobility on Si-SiO_2 Interface Microroughness,” IEEE Electron Device Letters, Vol. 12, No. 12, pp. 652-654, December 1991.

244(F) Kazuya Masu, Yohei Hiura, Kazuo Tsubouchi, Tadahiro Ohmi, and Nobuo Mikoshiba, “In Situ Observation of Electromigration in Cu Film Using Scanning-Reflection High-Energy Electron Diffraction Microscope,” Jpn. J. Appl. Phys., Vol. 30, No. 12B, pp. 3642-3645, December 1991.

245(F) Naozumi Terada, Hiroki Ogawa, Kazunori Moriki, Akinobu Teramoto, Koji Makihara, Mizuho Morita, Tadahiro Ohmi, and Takeo Hattori, “Effect of Silicon Wafer In Situ Cleaning on the Chemical Structure of Ultrathin Silicon Oxide Film,” Jpn. J. Appl. Phys., Vol. 30, No. 12B, pp. 3584-3586, December 1991.

246(F) Jeffrey L. Briesacher, Masakazu Nakamura, and Tadahiro Ohmi, “Gas Purification and Measurement at the PPT Level,” Journal of the Electrochemical Society, Vol.138, No. 12, pp. 3717-3723, December 1991.

247(W) Tadahiro Ohmi and Tadashi Shibata, “Advanced Semiconductor Manufacturing System”, the 1st Microelectronics Conference Proceeding, pp.115-173, December 1991.

248(W) Tadahiro Ohmi, Masayuki Miyashita, Toshio Tsuga, and Jun Takano, “Dependence of Surface Microroughness on Types of Silicon Substrates in Wet Chemical Processing”, the 1st Microelectronics Conference Proceeding, pp.199-212, December 1991.

249(W) H. Wakamatsu, H. Uetake, S. Aoyama, N. Konishi, J. Watanabe, K. Miyashita, T. Koyama, H. Gotoh, Y. Aoki, K. Morizuka, and T. Ohmi, “Dual-Frequency-Excitation Plasma Process Equipment”, the 1st Microelectronics Conference Proceeding, pp.227-243, December 1991.

250(W) Tadashi Shibata, and Tadahiro Ohmi, “An Intelligent MOS Transistor Featuring Gate-Level Weighted Sum and Threshold Operations”, the 1st Microelectronics Conference Proceeding, pp.253-256, December 1991.