

## 著作目錄

### Journal Papers

- [1] Yi-Mu Lee\* and Chun-Hung Lai, "Preparation and characterization of solid n-TiO<sub>2</sub>/p-NiO heterojunction electrodes for all-solid-state dye-sensitized solar cells," *Solid State Electronics*, vol. 53, p. 1116-1125, July **2009**. (NSC 97-2221-E-239-027)
- [2] Yi-Mu Lee\*, Cheng-Hsing Hsu and Hung-Wei Chen, "Structural, optical, and electrical properties of p-type NiO films and composite TiO<sub>2</sub>/NiO electrodes for solid-state dye-sensitized solar cells," *Applied Surface Science*, vol. 255, p. 4658-4663, **2009**. (NSC 96-2221-E-239-015)
- [3] W. Chen, C. Tseng, Yi-Mu Lee, H. Tung, H. Yang, and C. Hsu, "Effect of CuO additives on sintering and dielectric behaviors of CeO<sub>2</sub> ceramics," *Journal of Materials Processing Technology*, vol. 209, p. 2277-2281, **2008**.
- [4] Yi-Mu Lee\* and Yider Wu, "Influence of Si/SiO<sub>2</sub> interface properties on electrical performance and breakdown characteristics of ultrathin stacked oxide/nitride dielectric films," *Applied Surface Science*, vol. 254, p. 4591-4598, **2008**. (NSC 96-2221-E-239-015)
- [5] Yi-Mu Lee\*, Y. Wu, and G. Lucovsky, "Breakdown and reliability of p-MOS devices with stacked RPECVD oxide/nitride gate dielectric under constant voltage stress," *Microelectronics Reliability*, vol. 44, No. 2, p. 207-212, Feb. **2004**. (SCI)
- [6] Yi-Mu Lee\*, Y. Wu, J. Hong, C. Bae, and G. Lucovsky, "Structural dependence of breakdown characteristics and electrical degradation in ultrathin RPECVD oxide/nitride gate dielectrics under constant voltage stress," *Solid State Electronics*, vol. 47, p. 71-76, Jan. 2003. (SCI)
- [7] Yi-Mu Lee\*, Y. Wu, J. Hong, and G. Lucovsky, "Degradation and SILC Effects of RPECVD sub-2.0nm Oxide/Nitride (O/N) and Oxynitride Dielectrics Under Constant Current Stress (CCS)," *Proceedings of 2002 MRS: Silicon Materials Processing, Characterization and Reliability*, Vol. 716.
- [8] B. K. Choi, D. M. Fleetwood, L. W. Massengill, R. D. Schrimpf, K. F. Galloway, M. R. Shaneyfelt, T. L. Meisenheimer, P. E. Dodd, J. R. Schwank, Y. M. Lee, R. S. Johnson, and G. Lucovsky, "Reliability Degradation of Ultra-thin Oxynitride and Al<sub>2</sub>O<sub>3</sub> Gate Dielectric Films owing to Heavy-Ion Irradiation," *Electron. Lett.*, vol. 34, pp. 157-158, 2002. (SCI)
- [9] B. K. Choi, D. M. Fleetwood, R. D. Schrimpf, L. W. Massengill, K. F. Galloway, M. R. Shaneyfelt, T. L. Meisenheimer, P. E. Dodd, J. R. Schwank, Y. M. Lee, R. S. Johnson, and G. Lucovsky, "Long-Term Reliability Degradation of Ultra-thin Dielectric Films due to Heavy-Ion Irradiation," *IEEE Trans. Nucl. Sci.*, vol. 49, pp. 3045-3050, 2002. (SCI)
- [10] L. W. Massengill, B. K. Choi, D. M. Fleetwood, R. D. Schrimpf, K. F. Galloway, M. R. Shaneyfelt, T. L. Meisenheimer, P. E. Dodd, J. R. Schwank, Y. M. Lee, R. S. Johnson, and G. Lucovsky, "Heavy-Ion-Induced Breakdown in Ultra-Thin Gate Oxides and High-k Dielectrics," *IEEE Trans. Nucl. Sci.*, vol. 48, pp. 1904-1912, 2001. (SCI)
- [11] Y. Wu, G. Lucovsky, and Yi-Mu Lee, "The Performance and Reliability of PMOSFET's with Ultrathin Silicon Nitride/Oxide Stacked Gate Dielectrics with Nitrided Si-SiO<sub>2</sub> Interfaces Prepared by Remote Plasma Enhanced CVD and Post-

- Deposition Rapid Thermal Annealing,” *IEEE Trans. Electron Device*, vol. 47, No. 7, p. 1361, July, 2000. (SCI)
- [12] Y. Wu, Yi-Mu Lee, and G. Lucovsky, “1.6nm oxide equivalent gate dielectrics using nitride/oxide (N/O) composites prepared by RPECVD/Oxidation process,” *IEEE Electron Device Letter*, vol. 21, No. 3, p. 116, 2000. (SCI)
- [13] B.D. White, L.J. Brillson, S.C. Lee, D.M. Fleetwood, R.D. Schrimpf, S.T. Pantelides, Y.-M. Lee, and G. Lucovsky, “Low Energy Electron – Excited Nanoscale Luminescence: A Tool to Detect Trap Activation by Ionizing Radiation,” *IEEE Trans. Nucl. Sci.*, Vol. 47, No. 6, pp. 2276-2280, Dec. 2000. (SCI)
- [14] Yi-Mu Lee and Dabir S. Viswanath, “Degradation of Poly(methyl methacrylate) (PMMA) with Aluminum Nitride and Alumina,” *Polymer Engineering and Science*, vol. 40, No. 11, Nov., 2000. (SCI)
- [15] L.J.Brillson, A.P.Young, B.D.White, J. Schaefer, H. Niimi, Y.M. Lee, and G. Lucovsky, "Depth-Resolved Detection and Process Dependence of Traps at Ultrathin Plasma-Oxidized and Deposited SiO<sub>2</sub>/Si Interfaces," *J. Vac. Sci. Technol.* B18, p. 1737, 2000. (SCI)

## Conference Paper

- [1] Yi-Mu Lee\*, Wei-Ming Nung, Chun-Hung Lai and Hung-Wei Chen, “Growth and Characterization of One-dimensional ZnO Nanorod Arrays by Two-step Chemical Bath Method,” TACT 2009 International Thin Films Conference, Taipei, Taiwan, December, **2009**.
- [2] Yi-Mu Lee\*, L.-C. Chang, “Optical and Electronic Properties of P-type NiO Thin Films for Dye-sensitized Solar Cells,” *The Electrochemistry Society Symp.*, Shanghai, China, March, **2009**. (NSC 97-2622-E-239-006-CC3)
- [3] Yi-Mu Lee\*, Chun-Hung Lai and Hung-Wei Chen, “Fabrication of Solid-State Dye-Sensitized Solar Cells with P-type NiO Semiconductor Oxide by Sol-Gel Method,” ICSICT, Beijing, China, June, **2008**. (NSC 96-2221-E-239-028)
- [4] Yi-Mu Lee\*, Chun-Hung Lai, Cheng-Hsing Hsu and Yider Wu, “Effect of Si/SiO<sub>2</sub> Interface Properties and Trap Generation on Electrical Performance and TDDB Reliability for Ultrathin Oxide/Nitride Gate Stacks,” *The Electrochemistry Society Symp.*, Shanghai, China, March **2008**. (NSC 96-2221-E-239-015)
- [5] C. H. Lai, Y. Y. Zhuang, C. H. Hsu and Yi-Mu Lee, “Equivalent circuit analysis of V-SrZrO<sub>3</sub> sputter-deposited thin films showing resistive switching,” *The Electrochemistry Society Symp.*, Shanghai, China, March **2008**.
- [6] Yi-Mu Lee\* and Y-H. Su, “Relation between partition model of gate leakage current and location of trap generation during CVS and its impact on mobility degradation in PECVD oxide/nitride gate stack,” International Symposium on Nano Science and Technology, Tainan, Taiwan, November, 2005.
- [7] Yi-Mu Lee\*, Y. Wu, and G. Lucovsky, “Effects of Interface Properties on Electrical Degradation and TDDB Reliability of Ultra-thin Stacked Oxide/Oxynitride Dielectric Films,” *The Electrochemistry Society Symp.*, Shanghai, September 2004.
- [8] Yi-Mu Lee\*, Y. Wu, J. Hong, C. Bae, and G. Lucovsky, “Effects of interface properties on degradation and reliability of RPECVD stacked Oxide/Nitride and

- Oxynitride dielectrics,” *The AVS 49<sup>th</sup> International Symp.*, Denver, November 2002.
- [9] Yi-Mu Lee\*, Y. Wu, J. Hong, and G. Lucovsky, “Impact of Interface Nitridation and Remote-Plasma-Assisted Oxidation (RPAO) Thickness on Breakdown Phenomena and Reliability of Stacked Oxide/Nitride and Oxynitride Dielectrics under Constant Voltage Stress (CVS),” *The Electrochemistry Society Symp.*, Philadelphia, May 2002.
- [10] Yi-Mu Lee\*, Y. Wu, J. Hong, and G. Lucovsky, “Degradation and SILC Effects of RPECVD sub-2.0nm Oxide/Nitride (O/N) and Oxynitride Dielectrics Under Constant Current Stress (CCS),” *Materials Res. Soc. Symp.*, San Francisco, April 2002.
- [11] B.D. White, L.J. Brillson, S.C. Lee, D.M. Fleetwood, R.D. Schrimpf, S.T. Pantelides, Y.-M. Lee, and G. Lucovsky, “Low Energy Electron – Excited Nanoscale Luminescence: A Tool to Detect Trap Activation by Ionizing Radiation,” *IEEE 37<sup>th</sup> Annual Int’l Nucl. Space Radiation Effects Conf.*, December, 2000.
- [12] L.J. Brillson, A.P. Young, B.D. White, J. Schäfer, H. Nimi, Y.M. Lee, and G. Lucovsky, “Depth-Resolved Detection and Process Dependence of Traps at Ultrathin Plasma-Oxidized and Deposited SiO<sub>2</sub>/Si Interfaces,” *International Conference on Silicon Dielectric Interfaces*, AVS, Feb. 2000.
- [13] Wu Y., Yi-Mu Lee, and Gerald Lucovsky, “PMOS and NMOS FETs with Aggressively-Scaled Oxide Equivalent Gate Dielectric Thickness to 1.3nm with Oxide-Nitride (‘ON’) Stacked Dielectrics with Nitrided Interfaces (‘NON’) by Remote Plasma Oxidation, Interface Nitridation and Film Deposition Process,” *IEEE Semi. Inter. Specialists Conference (SISC)*, South Carolina, 1999.
- [14] Lucovsky G., Y. Wu, Yi-Mu Lee, and H. Niimi, “Integration of independent tunneling reduction from i) nitrided interface and ii) stacked oxide nitride gate dielectrics to achieve combined reductions in direct tunneling with respect to oxide gate dielectrics with equivalent thickness to 1.3nm,” *Materials Res. Soc. Symp.*, Boston, 1999.