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Academic Qualification: M.Sc. (Physics), Ph.D. (Science)

Research Area and Area of Interest: MOS Device Physics

Research Guidance: N/A

Publications:

1. "A new degradation mechanism and its role on negative bias temperature instability in Metal-Oxide-Semiconductor Devices," **Piyas Samanta** and Mansun Chan, *IEEE Int. Conference on Electron Devices and Solid State Circuits 2014, Chengdu, China, June 2014.*
2. "Effect of nitridation of hafnium silicate gate dielectric on positive bias temperature instability in pMOS devices," **Piyas Samanta**, H. S. Huang, S. Y. Chen, and C. H. Liu, *IEEE Int. Conference on Electron Devices and Solid State Circuits 2014, Chengdu, China, June 2014.*
3. "Mechanism of positive charge generation in the bulk of HfAlO/SiO₂ stack," **Piyas Samanta**, C. L. Cheng, Y. J. Lee and M. Chan, *16th Biannual International Conference on Insulating Films on Semiconductors INFOS 2009, Cambridge University, UK, June 2009.*
4. "Modeling of hole generation/trapping in ultrathin SiO₂ films during gate injection of electrons in direct tunneling regime," **Piyas Samanta** and M. Chan, *2nd International Workshop on Electron Device and Semiconductor Technology, IIT Bombay, India, June 1-2, 2009.*