

## Publications

*High speed maskless lithography of printed circuit boards using digital micromirrors*, Eric J. Hansotte, Edward C. Carignan, W. Dan Meisburger, Proc. SPIE 7932, (2011)

*Electron beam induced conductivity in poly(methylmethacrylate) and SiO<sub>2</sub> thin films*, Min Bai, R. Fabian W. Pease, and Dan Meisburger, J. Vac. Sci. Technol. B 21(6), 2638 (2003)

*Distributed axis electron beam technology for maskless lithography and defect inspection*, D. S. Pickard, T. R. Groves, W. D. Meisburger, T. Crane, and R. Fabian Pease, J. Vac. Sci. Technol. B 21(6), 2834 (2003)

*Correcting for global space charge by positive ion generation*, Trevor Crane, Colin Campbell, Dan Pickard, Liqun Han, Kimitoshi Takahashi, W. Dan Meisburger and R. Fabian Pease, J. Vac. Sci. Technol. B 20(6), 2709 (2002)

*Distributed axis electron-beam system for lithography and inspection – preliminary experimental results*, D. S. Pickard, C. Campbell, T. Crane, L. J. Cruz-Rivera, A. Davenport, W. D. Meisburger, R. F. W. Pease and T. R. Groves, J. Vac. Sci. Technol., B 20(6), 2662 (2002)

*Stochastic Coulomb Interaction effect in ion-neutralized electron-beam projection optics*, Kimitoshi Takahashi, Liqun Han, R. Fabian Pease and W. Dan Meisburger, J. Vac. Sci. Technol. B 19(6), 2572 (2001)

*Scaled measurements of global space-charge induced image blur in electron beam projection system*, Liqun Han, R. Fabian Pease, W. Dan Meisburger, Gil I. Winograd and Kimitoshi Takahashi, J. Vac. Sci. Technol. B 18(6), 2999 (2000)

*Prospects for Charged Particle Lithography as a Manufacturing Technology*, R. Fabian Pease, Liqun Han, Gil I. Winograd, W. D. Meisburger, Dan Pickard and M. A. McCord, Microelectron. Eng. 53, 55 (2000)

*Field size versus column shortness in high throughput electron beam lithography*, L. Han, R. F. W. Pease, W. D. Meisburger, G. I. Winograd, and Mark McCord, J. Vac. Sci. Technol. B 17(6), 2830 (1999)

*Charging and discharging of electron beam resist films*, M. Bai, R. F. W. Pease, C. Tanasa, M. A. McCord, D. S. Pickard, and D. Meisburger, J. Vac. Sci. Technol. B 17(6) 2893 (1999)

*Space-charge-induced aberrations*, G. I. Winograd, W. D. Meisburger, and R. F. W. Pease, J. Vac. Sci. Technol. B 17(6), 2803 (1999)

*The Global Space Charge Effects in High Throughput Electron Beam Lithography*, Liqun Han, W. Dan Meisburger, R. Fabian W. Pease, Gil I. Winograd, Proc. SPIE 3777, 192 (1999)

*Application of the SEMSpec electron-beam inspection system to in-process defect detection on semiconductor wafers*, T. R. Cass, D. Hendricks, J. Jau, H. J. Dohse, A. D. Brodie and W. D. Meisburger, Microelectronic Eng. 30, 567 (1996)

*Characterization of a New Automated Electron-Beam Wafer Inspection System* D. Hendricks, J. Jau, H. Dohse, A. Brodie, and D. Meisburger, Proc. SPIE 2439, 174 (1995)

*Inspection of optical phase-shifting masks with an automated electron-beam system* Alan D. Brodie, Zhong-Wei Chen, Jack Jau, Dan Meisburger and Brian Grenon, J. Vac. Sci. Technol B 12(6), 3595 (1994)

*Low-Voltage electron-optical system for the high speed inspection of integrated circuits*  
W. D. Meisburger, A. D. Brodie, A. A. Desai, J. Vac. Technol. B 10, 2804 (1992)

*Dynamic performance of a scanning x-y stage for automated electron-beam inspection*  
D. J. Clark, J. McMurtry, C. Chadwick, R. Simmons, W. D. Meisburger, L. Veneklasen, J. Vac. Sci. Technol. B 10(6), 2638 (1992)

*Conceptual models for understanding and minimizing coulomb interactions*  
A. D. Brodie, W. D. Meisburger, Microelectronics Engineering, Vol. 17, 399 (1992)

*An electron-beam inspection system for x-ray mask production*  
P. Sandland, W. D. Meisburger et al., J. Vac. Sci. Technol. B 9(6), 3005 (1991)

*Requirements and performance of an electron-beam column designed for x-ray mask inspection*  
W. D. Meisburger, A. A. Desai, A. D. Brodie, J. Vac. Sci. Technol. B 9, 2010 (1991)

*Electrostatic lens of very low spherical aberration*  
W. D. Meisburger, E. H. Jacobsen, Optic 62, No. 4, 359 (1982)

### **U. S. Patents Granted**

*Method of Operation for SLM-Based Optical Lithography Tool*  
7,719,753 (2010)

*Apparatus for SLM-Based Optical Lithography with Gray Level Capability*  
7,639,416 (2009)

*Gray Level Method for SLM-Based Optical Lithography*  
7,508,570 (2009)

*Continuous Direct-Write Optical Lithography*  
7,295,362 (2007) and 7,167,296 (2007)

*Lithography System and Method for Device Manufacture*  
6,753,947 (2004)

*Motion Compensation System and Method for Lithography*  
6,556,279 (2003)

*Inspecting optical masks with electron beam microscopy*  
5,717,204 (1998) and 5,665,968 (1997)

*Electron beam inspection system and method*  
5,578,821 (1996) and 5,502,306 (1996)

*Method for opens/shorts testing of capacitively coupled networks in substrates using electron beams*  
5,057,773 (1991)

*Apparatus and method for opens/shorts testing of capacitively coupled networks in substrates using electron beams*  
4,943,769 (1990)

*Electron lens*  
4,330,708 (1982)

### **Korea Patents Granted**

*Continuous Direct-Write Optical Lithography*

1121825 (2012), 1087930 (2011), 1087862 (2011) and 1049608 (2011)

### **Japan Patents Granted**

*Continuous Direct-Write Optical Lithography*

4695712 (2011), 4695711 (2011) and 4597675 (2010)

### **China Patents Granted**

*Continuous Direct-Write Optical Lithography*

ZL03824263.X (2009)

### **Taiwan Patents Granted**

*Continuous Direct-Write Optical Lithography*

I 266961 (2006)

### **Europe Patents Granted**

*Method for opens/shorts testing of capacitively coupled networks in substrates using electron beams* EP 0678752 B1 (2001)

*Apparatus and method for opens/shorts testing of capacitively coupled networks in substrates using electron beams* EP 0389397 B1 (1995)