







## THIN FILMS

### **Low sheet resistance titanium nitride films by low-temperature plasma-enhanced atomic layer deposition using design of experiments methodology**

Micheal Burke, Alan Blake, Ian M. Povey, Michael Schmidt, Nikolay Petkov, Patrick Carolan and Aidan J. Quinn

J. Vac. Sci. Technol. A **32**, 031506 (2014); <http://dx.doi.org/10.1116/1.4868215>

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### **ZrN coatings deposited by high power impulse magnetron sputtering and cathodic arc techniques**

Yashodhan Purandare, Arutiun Ehasarian, Antonio Santana and Papken Hovsepian

J. Vac. Sci. Technol. A **32**, 031507 (2014); <http://dx.doi.org/10.1116/1.4869975>

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### **Optical characteristics of nanocrystalline $Al_xGa_{1-x}N$ thin films deposited by hollow cathode plasma-assisted atomic layer deposition**

Eda Goldenberg, Cagla Ozgit-Akgun, Necmi Biyikli and Ali Kemal Okyay

J. Vac. Sci. Technol. A **32**, 031508 (2014); <http://dx.doi.org/10.1116/1.4870381>

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### **Investigation on dielectric properties of atomic layer deposited $Al_2O_3$ dielectric films**

Dilber Esra Yıldız, Mert Yıldırım and Muharrem Gökçen

J. Vac. Sci. Technol. A **32**, 031509 (2014); <http://dx.doi.org/10.1116/1.4870593>

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### **Growth and electrical properties of *in situ* phosphorus-doped polycrystalline silicon films using $Si_3H_8$ and $PH_3$**

Byongju Kim, Hyunchul Jang, Sun-Wook Kim, Dae-Seop Byeon, Sangmo Koo, Jason S. Song and Dae-Hong Ko

J. Vac. Sci. Technol. A **32**, 031510 (2014); <http://dx.doi.org/10.1116/1.4870817>

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### **Plasma-enhanced atomic layer deposition of silicon dioxide films using plasma-activated triisopropylsilane as a precursor**

Ki-Moon Jeon, Jae-Su Shin, Ju-Young Yun, Sang Jun Lee and Sang-Woo Kang

J. Vac. Sci. Technol. A **32**, 031511 (2014); <http://dx.doi.org/10.1116/1.4871455>

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### **Effect of water uptake on the fracture behavior of low-*k* organosilicate glass**

Xiangyu Guo, Joseph E. Jakes, Samer Banna, Yoshio Nishi and J. Leon Shohet

J. Vac. Sci. Technol. A **32**, 031512 (2014); <http://dx.doi.org/10.1116/1.4871680>

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### **Time-resolved surface infrared spectroscopy during atomic layer deposition of**



