Gottlieb S Oehrlein

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283	9,515	53	81
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289	10,256	3	5.93
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
283	The 2017 Plasma Roadmap: Low temperature plasma science and technology. *Journal Physics D: Applied Physics*, **2017**, 50, 323001	3	496
282	Study of the SiO2-to-Si3N4 etch selectivity mechanism in inductively coupled fluorocarbon plasmas and a comparison with the SiO2-to-Si mechanism. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1999**, 17, 26-37	2.9	221
281	Role of steady state fluorocarbon films in the etching of silicon dioxide using CHF3 in an inductively coupled plasma reactor. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1997**, 15, 1881-1889	2.9	211
280	High density fluorocarbon etching of silicon in an inductively coupled plasma: Mechanism of etching through a thick steady state fluorocarbon layer. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1998**, 16, 239-249	2.9	205
279	Role of fluorocarbon film formation in the etching of silicon, silicon dioxide, silicon nitride, and amorphous hydrogenated silicon carbide. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2004**, 22, 53-60	2.9	186
278	Surface Chemistry Studies of Copper Chemical Mechanical Planarization. *Journal of the Electrochemical Society*, **2001**, 148, G389	3.9	157
277	Fluorocarbon high-density plasmas. I. Fluorocarbon film deposition and etching using CF4 and CHF3. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1994**, 12, 323-332	2.9	149
276	Atomic Layer Etching at the Tipping Point: An Overview. *ECS Journal of Solid State Science and Technology*, **2015**, 4, N5041-N5053	2	146
275	Plasma-polymer interactions: A review of progress in understanding polymer resist mask durability during plasma etching for nanoscale fabrication. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2011**, 29, 010801	1.3	144
274	Silicon etching mechanisms in a CF4/H2 glow discharge. *Journal of Applied Physics*, **1987**, 62, 662-672	2.5	136
273	Fluorocarbon assisted atomic layer etching of SiO2 using cyclic Ar/C4F8 plasma. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2014**, 32, 020603	2.9	134
272	Near-Surface Damage and Contamination after CF 4 / H 2 Reactive Ion Etching of Si. *Journal of the Electrochemical Society*, **1985**, 132, 1441-1447	3.9	131
271	Dry etching damage of silicon: A review. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **1989**, 4, 441-450	3.1	123
270	Fluorocarbon high-density plasmas. II. Silicon dioxide and silicon etching using CF4 and CHF3. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1994**, 12, 333-344	2.9	116
269	Chemical dry etching of silicon nitride and silicon dioxide using CF4/O2/N2 gas mixtures. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1996**, 14, 2802-2813	2.9	115
268	Oxidation temperature dependence of the dc electrical conduction characteristics and dielectric strength of thin Ta2O5 films on silicon. *Journal of Applied Physics*, **1986**, 59, 1587-1595	2.5	102
267	Study of sidewall passivation and microscopic silicon roughness phenomena in chlorine-based reactive ion etching of silicon trenches. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1990**, 8, 1199		100

266	Properties of c-C4F8 inductively coupled plasmas. II. Plasma chemistry and reaction mechanism for modeling of Ar/c-C4F8/O2 discharges. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2004**, 22, 511	2.9	96
265	Some properties of crystallized tantalum pentoxide thin films on silicon. *Journal of Applied Physics*, **1984**, 55, 3715-3725	2.5	91
264	Surface morphology of oxidized and ion-etched silicon by scanning tunneling microscopy. *Applied Physics Letters*, **1985**, 47, 97-99	3.4	91
263	Influence of reactor wall conditions on etch processes in inductively coupled fluorocarbon plasmas. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1998**, 16, 2099-2107	2.9	87
262	Study of silicon contamination and near-surface damage caused by CF4/H2 reactive ion etching. *Applied Physics Letters*, **1984**, 45, 420-422	3.4	87
261	A Review of SiO[sub 2] Etching Studies in Inductively Coupled Fluorocarbon Plasmas. *Journal of the Electrochemical Society*, **2001**, 148, C211	3.9	85
260	Hydrogen plasma induced defects in silicon. *Applied Physics Letters*, **1988**, 53, 1735-1737	3.4	85
259	Structure of the boron-hydrogen complex in crystalline silicon. *Physical Review B*, **1987**, 36, 4539-4542	3.3	84
258	Fluorocarbon-based plasma etching of SiO2: Comparison of C4F6/Ar and C4F8/Ar discharges. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2002**, 20, 2052	2.9	83
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256	Relationship between nanoscale roughness and ion-damaged layer in argon plasma exposed polystyrene films. *Journal of Applied Physics*, **2010**, 107, 084310	2.5	80
255	Remote plasma etching of silicon nitride and silicon dioxide using NF3/O2 gas mixtures. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1998**, 16, 2047-2056	2.9	77
254	Effects of Ar and O2 additives on SiO2 etching in C4F8-based plasmas. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2003**, 21, 284-293	2.9	73
253	Highly selective etching of silicon nitride over silicon and silicon dioxide. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1999**, 17, 3179-3184	2.9	69
252	Asymmetric microtrenching during inductively coupled plasma oxide etching in the presence of a weak magnetic field. *Applied Physics Letters*, **1998**, 72, 1293-1295	3.4	68
251	Patterning of fluorine-, hydrogen-, and carbon-containing SiO2-like low dielectric constant materials in high-density fluorocarbon plasmas: Comparison with SiO2. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1999**, 17, 741-748	2.9	68
250	Electrical properties of amorphous tantalum pentoxide thin films on silicon. *Journal of Applied Physics*, **1983**, 54, 6502-6508	2.5	66
249	Plasma-surface interactions of model polymers for advanced photoresists using C4F8□Ar discharges and energetic ion beams. *Journal of Vacuum Science & Technology B*, **2007**, 25, 1353		65

248	Reactive ion etching related Si surface residues and subsurface damage: Their relationship to fundamental etching mechanisms. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1987**, 5, 1585-1594	2.9	65
247	Chemical Mechanical Planarization of Copper Damascene Structures. *Journal of the Electrochemical Society*, **2000**, 147, 706	3.9	63
246	Selective etching of SiO_2 over polycrystalline silicon using CHF_3 in an inductively coupled plasma reactor. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1999**, 17, 2492-2502	2.9	63
245	Effects of ion bombardment in plasma etching on the fluorinated silicon surface layer: Real-time and postplasma surface studies. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1993**, 11, 34-46	2.9	63
244	Foundations of low-temperature plasma enhanced materials synthesis and etching. *Plasma Sources Science and Technology*, **2018**, 27, 023001	3.5	62
243	Sidewall surface chemistry in directional etching processes. *Materials Science and Engineering Reports*, **1998**, 24, 153-183	30.9	61
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240	Understanding the Roughening and Degradation of 193 nm Photoresist during Plasma Processing: Synergistic Roles of Vacuum Ultraviolet Radiation and Ion Bombardment. *Plasma Processes and Polymers*, **2009**, 6, 649-657	3.4	58
239	Damage of ultralow k materials during photoresist mask stripping process. *Journal of Vacuum Science & Technology B*, **2006**, 24, 1238		58
238	Synergistic effects of vacuum ultraviolet radiation, ion bombardment, and heating in 193nm photoresist roughening and degradation. *Applied Physics Letters*, **2008**, 92, 153113	3.4	56
237	Fluorocarbon based atomic layer etching of Si_3N_4 and etching selectivity of SiO_2 over Si_3N_4. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2016**, 34, 041307	2.9	56
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222	Observation of inverse reactive ion etching lag for silicon dioxide etching in inductively coupled plasmas. *Applied Physics Letters*, **1996**, 68, 10-12	3.4	45
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220	Surface analysis of realistic semiconductor microstructures. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1989**, 7, 1030-1034	2.9	42
219	Photoresist modifications by plasma vacuum ultraviolet radiation: The role of polymer structure and plasma chemistry. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2010**, 28, 993-1004	1.3	41
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198	Investigation of surface modifications of 193 and 248nm photoresist materials during low-pressure plasma etching. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2004**, 22, 2594		34
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