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## Analysis of Stochastic Effect in Line-and-Space Resist Patterns Fabricated by Extreme Ultraviolet Lithography

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#	Paper	IF	Citations
75	Effect of Initial Dispersion of Protected Units on Line Edge Roughness of Chemically Amplified Extreme Ultraviolet Resists. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2013</b> , 26, 643-648	0.7	11
74	Effects of effective reaction radius for neutralization on performance of chemically amplified resists. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 06JC02	1.4	1
73	Effects of deprotonation efficiency of protected units on line edge roughness and stochastic defect generation in chemically amplified resist processes for 11 nm node of extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 116504	1.4	1
72	Theoretical study on stochastic defect generation in chemically amplified resist process for extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 066504	1.4	4
71	Relationship between stochasticity and wavelength of exposure source in lithography. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 066505	1.4	
70	Stochastic effects in 11 nm imaging of extreme ultraviolet lithography with chemically amplified resists. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 036503	1.4	2
69	Feasibility study of sub-10-nm half-pitch fabrication by chemically amplified resist processes of extreme ultraviolet lithography: I. Latent image quality predicted by probability density model. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 106501	1.4	7
68	Stochastic effects in fabrication of 11nm line-and-space patterns using extreme ultraviolet lithography. <b>2014</b> ,		
67	Effect of molecular weight and protection ratio on line edge roughness and stochastic defect generation in chemically amplified resist processes of extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 084002	1.4	4
66	Dependence of stochastic defect generation on quantum efficiency of acid generation and effective reaction radius for deprotection in chemically amplified resist process using extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 076502	1.4	3
65	Acid diffusion length in contact hole imaging of chemically amplified extreme ultraviolet resists. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 016503	1.4	0
64	Theoretical relationship between quencher diffusion constant and effective reaction radius for neutralization in contact hole imaging using chemically amplified extreme ultraviolet resists. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 066502	1.4	
63	Effect of photodecomposable quencher on latent image quality in extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2014</b> , 53, 066508	1.4	1
62	Relationships between Stochastic Phenomena and Optical Contrast in Chemically Amplified Resist Process of Extreme Ultraviolet Lithography. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2014</b> , 27, 11-19	0.7	1
61	Characterization of chemically amplified resists for electron beam lithography. <b>2014</b> ,		1
60	Quencher diffusion in chemically amplified poly(4-hydroxystyrene-co-t-butyl methacrylate) resist. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 118002	1.4	2
59	Relationship between Thermalization Distance and Line Edge Roughness in Sub-10 nm Fabrication Using Extreme Ultraviolet Lithography. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2015</b> , 28, 669-675	0.7	3

58	Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist process: III. Post exposure baking on quartz substrates. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 096703	1.4	4
57	Optimum concentration ratio of photodecomposable quencher to acid generator in chemically amplified extreme ultraviolet resists. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 126501	1.4	5
56	Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch (7 nm space width and 21 nm line width) using electron beam lithography with chemically amplified resist processes: I. Relationship between sensitivity and chemical gradient. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 056501	1.4	8
55	Shot noise limit of sensitivity of chemically amplified resists used for extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 116501	1.4	6
54	Effects of dose shift on line width, line edge roughness, and stochastic defect generation in chemically amplified extreme ultraviolet resist with photodecomposable quencher. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 016503	1.4	1
53	Relationships between quencher diffusion constant and exposure dose dependences of line width, line edge roughness, and stochastic defect generation in extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 016502	1.4	6
52	Feasibility study of sub-10-nm-half-pitch fabrication by chemically amplified resist processes of extreme ultraviolet lithography: II. Stochastic effects. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 036507	1.4	8
51	Effects of diffusion constant of photodecomposable quencher on chemical gradient of chemically amplified extreme-ultraviolet resists. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 056502	1.4	1
50	Relationship between information and energy carried by extreme-ultraviolet photons: consideration from the viewpoint of sensitivity enhancement. <b>2015</b> ,		
49	Resist material options for extreme ultraviolet lithography. <i>Advanced Optical Technologies</i> , <b>2015</b> , 4,	0.9	
48	Relationship between information and energy carried by photons in extreme ultraviolet lithography: Consideration from the viewpoint of sensitivity enhancement. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 086502	1.4	4
47	Effect of thermalization distance on chemical gradient of line-and-space patterns with 7 nm half-pitch in chemically amplified extreme ultraviolet resists. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 066501	1.4	1
46	Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist processes: II. Stochastic effects. <i>Japanese Journal of Applied Physics</i> , <b>2015</b> , 54, 096501	1.4	6
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44	Study on stochastic phenomena induced in chemically amplified poly(4-hydroxystyrene-co-t-butyl methacrylate) resist (high performance model resist for extreme ultraviolet lithography). <b>2016</b> ,		
43	Challenges in Development of Sub-10 nm Resist Materials. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2016</b> , 29, 717-723	0.7	2
42	Dose performance characterization of extreme ultraviolet exposure system using enhanced energy sensitivity by resist contrast method. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2016</b> , 34, 041602	1.3	3
41	Analysis of line-and-space resist patterns with sub-20 nm half-pitch fabricated using high-numerical-aperture exposure tool of extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2016</b> , 55, 096501	1.4	2

40	Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist process: IV. Comparison with experimental results. <i>Japanese Journal of Applied Physics</i> , <b>2016</b> , 55, 056503	1.4	6
39	Analysis of stochastic effects in chemically amplified poly(4-hydroxystyrene-co-t-butyl methacrylate) resist. <i>Japanese Journal of Applied Physics</i> , <b>2016</b> , 55, 076501	1.4	1
38	Shot noise limit of chemically amplified resists with photodecomposable quenchers used for extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 066501	1.4	3
37	Theoretical study on effects of photodecomposable quenchers in line-and-space pattern fabrication with 7 nm quarter-pitch using chemically amplified electron beam resist process. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 046502	1.4	0
36	Theoretical study on effects of exposure pattern width on line edge roughness and stochastic defect generation in fabrication of 16-nm-half-pitch line-and-space patterns by electron beam lithography. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 116501	1.4	1
35	Theoretical study on relationship between exposure pattern width and chemical gradient of 16 nm half-pitch line-and-space patterns in electron beam lithography used for photomask and nanoimprint mold production. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 076501	1.4	1
34	Theoretical study on sensitivity enhancement in energy-deficit region of chemically amplified resists used for extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 106503	1.4	1
33	Relationship between Sensitization Distance and Photon Shot Noise in Line Edge Roughness Formation of Chemically Amplified Resists Used for Extreme Ultraviolet Lithography. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2017</b> , 30, 197-203	0.7	3
32	Electron-hole pairs generated in ZrO <sub>2</sub> nanoparticle resist upon exposure to extreme ultraviolet radiation. <i>Japanese Journal of Applied Physics</i> , <b>2018</b> , 57, 026501	1.4	2
31	Resist image quality control via acid diffusion constant and/or photodecomposable quencher concentration in the fabrication of 11 nm half-pitch line-and-space patterns using extreme-ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2018</b> , 57, 056501	1.4	1
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29	Relationship between Resolution Blur and Shot Noise in Line Edge Roughness Formation of Chemically Amplified Resists Used for Extreme-Ultraviolet Lithography. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2018</b> , 31, 183-188	0.7	4
28	Theoretical study on trade-off relationships between resolution, line edge roughness, and sensitivity in resist processes for semiconductor manufacturing by extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2019</b> , 58, 096502	1.4	1
27	Theoretical study on effects of electron thermal energy on sensitization process of chemically amplified electron beam resists-contribution to resist heating effect in electron beam mask writing. <i>Japanese Journal of Applied Physics</i> , <b>2019</b> , 58, 116503	1.4	0
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25	Dependence of relationship between chemical gradient and line width roughness of zirconia nanoparticle resist on pattern duty, acid generator, and developer. <i>Japanese Journal of Applied Physics</i> , <b>2019</b> , 58, 036501	1.4	2
24	Quantitative analysis and modeling of line edge roughness in near-field lithography: toward high pattern quality in nanofabrication. <i>Nanophotonics</i> , <b>2019</b> , 8, 879-888	6.3	2
23	Relationship between Resolution Blur and Stochastic Defect of Chemically Amplified Resists Used for Extreme Ultraviolet Lithography. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2019</b> , 32, 161-167	0.7	2

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21	Effect of initial molecular weight distribution on pattern formation of main-chain-scission-type resists. <i>Japanese Journal of Applied Physics</i> , <b>2021</b> , 60, 056501	1.4	
20	Analysis of mitigating factors for line edge roughness generated during electron beam lithography using machine learning. <i>Japanese Journal of Applied Physics</i> , <b>2021</b> , 60, 076509	1.4	0
19	Theoretical study of interfacial effects on low-energy electron dynamics in chemically amplified resist processes of photomask fabrication. <i>Japanese Journal of Applied Physics</i> ,	1.4	0
18	Requirement for Suppression of Line Width Roughness in Fabrication of Line-and-Space Patterns with 7 nm Quarter-Pitch Using Electron Beam Lithography with Chemically Amplified Resist Process. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2016</b> , 29, 809-816	0.7	1
17	Analysis of trade-off relationships between resolution, line edge roughness, and sensitivity in extreme ultraviolet lithography using lasso regression. <i>Japanese Journal of Applied Physics</i> , <b>2020</b> , 59, 076501	1.4	2
16	Regression analysis of photodecomposable quencher concentration effects on chemical gradient in chemically amplified extreme ultraviolet resist processes. <i>Japanese Journal of Applied Physics</i> , <b>2020</b> , 59, 116505	1.4	2
15	Gel permeation chromatography analysis of remaining components of electron-beam-irradiated ZEP520A resist after development. <i>Japanese Journal of Applied Physics</i> , <b>2021</b> , 60, 010901	1.4	1
14	Theoretical study of fabrication of line-and-space patterns with 7 nm quarter-pitch using electron beam lithography with chemically amplified resist process: V. Optimum beam size. <i>Japanese Journal of Applied Physics</i> , <b>2016</b> , 55, 106502	1.4	2
13	Relationship between sensitizer concentration and resist performance of chemically amplified extreme ultraviolet resists in sub-10 nm half-pitch resolution region. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 016501	1.4	1
12	Excluded volume effects caused by high concentration addition of acid generators in chemically amplified resists used for extreme ultraviolet lithography. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 086502	1.4	1
11	Stochastics and EUV Patterning in the 1x-nm Regime. <i>Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi]</i> , <b>2016</b> , 29, 797-802	0.7	4
10	Theoretical study of relationships among resolution, line width roughness, and sensitivity of chemically amplified extreme ultraviolet resists with photodecomposable quenchers. <i>Japanese Journal of Applied Physics</i> , <b>2016</b> , 55, 116501	1.4	1
9	Thin film characterization for advanced patterning. <b>2019</b> ,		
8	Analysis of line-and-space patterns of ZrO <sub>2</sub> nanoparticle resist on the basis of EUV sensitization mechanism. <b>2019</b> ,		
7	Relationship between blurring factors and interfacial effects in chemically amplified resist processes in photomask fabrication. <i>Japanese Journal of Applied Physics</i> ,	1.4	0
6	Formulation of trade-off relationships between resolution, line edge roughness, and sensitivity in sub-10 nm half-pitch region for chemically amplified extreme ultraviolet resists. <i>Japanese Journal of Applied Physics</i> ,	1.4	
5	Line-Edge Roughness from Extreme Ultraviolet Lithography to Fin-Field-Effect-Transistor: Computational Study.. <i>Micromachines</i> , <b>2021</b> , 12,	3.3	0

4	Classification of lines, spaces, and edges of resist patterns in scanning electron microscopy images using unsupervised machine learning. <i>Japanese Journal of Applied Physics</i> ,	1.4	○
3	Estimation of effective reaction radius for catalytic chain reaction of chemically amplified resist by Bayesian optimization. <i>Japanese Journal of Applied Physics</i> ,	1.4	
2	Theoretical study on defect risks of chemically amplified resists used for extreme ultraviolet lithography. <b>2022</b> , 61, 106502		○
1	Protected unit distribution near interfaces of chemically amplified resists used for extreme ultraviolet lithography.		○