

# Allen Y Yi

## List of Publications by Year in descending order

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103  
papers

2,735  
citations

186265

28  
h-index

214800

47  
g-index

105  
all docs

105  
docs citations

105  
times ranked

1273  
citing authors

#	ARTICLE	IF	CITATIONS
1	Compression Molding of Aspherical Glass Lenses-A Combined Experimental and Numerical Analysis. Journal of the American Ceramic Society, 2005, 88, 579-586.	3.8	202
2	Design and fabrication of a microlens array by use of a slow tool servo. Optics Letters, 2005, 30, 1707.	3.3	155
3	Development of a 3D artificial compound eye. Optics Express, 2010, 18, 18125.	3.4	127
4	Design and fabrication of a freeform microlens array for a compact large-field-of-view compound-eye camera. Applied Optics, 2012, 51, 1843.	1.8	127
5	Freeform manufacturing of a microoptical lens array on a steep curved substrate by use of a voice coil fast tool servo. Optics Express, 2011, 19, 23938.	3.4	107
6	Numerical Modeling of Viscoelastic Stress Relaxation During Glass Lens Forming Process. Journal of the American Ceramic Society, 2005, 88, 530-535.	3.8	71
7	Development of a low cost high precision three-layer 3D artificial compound eye. Optics Express, 2013, 21, 22232.	3.4	63
8	Viscosity Measurement by Cylindrical Compression for Numerical Modeling of Precision Lens Molding Process. Journal of the American Ceramic Society, 2005, 88, 2409-2414.	3.8	61
9	Investigation of the effects of process parameters on the glass-to-mold sticking force during precision glass molding. Surface and Coatings Technology, 2010, 205, 312-319.	4.8	61
10	Graphene-coated Si mold for precision glass optics molding. Optics Letters, 2013, 38, 2625.	3.3	59
11	Numerical Simulation and Experimental Study of Residual Stresses in Compression Molding of Precision Glass Optical Components. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2008, 130, .	2.2	55
12	Rapid hot embossing of polymer microstructures using carbide-bonded graphene coating on silicon stampers. Surface and Coatings Technology, 2014, 258, 174-180.	4.8	55
13	Microfabrication on a curved surface using 3D microlens array projection. Journal of Micromechanics and Microengineering, 2009, 19, 105010.	2.6	53
14	Optical Effects of Surface Finish by Ultraprecision Single Point Diamond Machining. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2010, 132, .	2.2	51
15	Refractive index variation in compression molding of precision glass optical components. Applied Optics, 2008, 47, 1662.	2.1	50
16	Design and fabrication of a micro Alvarez lens array with a variable focal length. Microsystem Technologies, 2009, 15, 559-563.	2.0	45
17	Fabrication of continuous diffractive optical elements using a fast tool servo diamond turning process. Journal of Micromechanics and Microengineering, 2013, 23, 075010.	2.6	41
18	Design and fabrication of a freeform phase plate for high-order ocular aberration correction. Applied Optics, 2005, 44, 6869.	2.1	40

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19	Finite Element Modeling of Structural Relaxation During Annealing of a Precision-Molded Glass Lens. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2006, 128, 683-690.	2.2	40
20	Development of a compression molding process for three-dimensional tailored free-form glass optics. <i>Applied Optics</i> , 2006, 45, 6511.	2.1	37
21	Effect of packing pressure on refractive index variation in injection molding of precision plastic optical lens. <i>Advances in Polymer Technology</i> , 2011, 30, 51-61.	1.7	37
22	Additive manufacturing of precision optics at micro and nanoscale. <i>International Journal of Extreme Manufacturing</i> , 2019, 1, 012005.	12.7	37
23	Efficient mold manufacturing for precision glass molding. <i>Journal of Vacuum Science &amp; Technology B</i> , 2009, 27, 1445-1449.	1.3	36
24	Finite element modelling of stress relaxation in glass lens moulding using measured, temperature-dependent elastic modulus and viscosity data of glass. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2006, 14, 465-477.	2.0	33
25	Fabrication of an infrared Shack-Hartmann sensor by combining high-speed single-point diamond milling and precision compression molding processes. <i>Applied Optics</i> , 2018, 57, 3598.	1.8	33
26	Numerical Simulation Assisted Curve Compensation in Compression Molding of High Precision Aspherical Glass Lenses. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2009, 131, .	2.2	30
27	A hybrid polymer-glass achromatic microlens array fabricated by compression molding. <i>Journal of Optics (United Kingdom)</i> , 2011, 13, 055407.	2.2	30
28	A reflow process for glass microlens array fabrication by use of precision compression molding. <i>Journal of Micromechanics and Microengineering</i> , 2008, 18, 055022.	2.6	29
29	Precision glass molding of diffractive optical elements with high surface quality. <i>Optics Letters</i> , 2020, 45, 6438.	3.3	29
30	Design and fabrication of a freeform prism array for 3D microscopy. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2010, 27, 2613.	1.5	28
31	A microlens array on curved substrates by 3D micro projection and reflow process. <i>Sensors and Actuators A: Physical</i> , 2012, 179, 242-250.	4.1	28
32	An integrated solution for mold shape modification in precision glass molding to compensate refractive index change and geometric deviation. <i>Optics and Lasers in Engineering</i> , 2014, 53, 98-103.	3.8	28
33	Replication characterization in injection molding of microfeatures with high aspect ratio: Influence of layout and shape factor. <i>Polymer Engineering and Science</i> , 2011, 51, 959-968.	3.1	27
34	Fabrication of microinjection-molded miniature freeform Alvarez lenses. <i>Applied Optics</i> , 2014, 53, 4248.	1.8	27
35	Stress Relaxation and Refractive Index Change of $As_2S_3$ in Compression Molding. <i>International Journal of Applied Glass Science</i> , 2017, 8, 255-265.	2.0	27
36	A two-station embossing process for rapid fabrication of surface microstructures on thermoplastic polymers. <i>Polymer Engineering and Science</i> , 2007, 47, 530-539.	3.1	26

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37	Localized rapid heating process for precision chalcogenide glass molding. Optics and Lasers in Engineering, 2015, 73, 62-68.	3.8	26
38	Study on subsurface damage and surface quality of silicon carbide ceramic induced by a novel non-resonant vibration-assisted roll-type polishing. Journal of Materials Processing Technology, 2020, 282, 116667.	6.3	26
39	Precision laboratory apparatus for high temperature compression molding of glass lenses. Review of Scientific Instruments, 2005, 76, 063101.	1.3	25
40	Diamond milling or turning for the fabrication of micro lens arrays: comparing different diamond machining technologies. Proceedings of SPIE, 2011, , .	0.8	25
41	Fabrication of infrared hexagonal microlens array by novel diamond turning method and precision glass molding. Journal of Micromechanics and Microengineering, 2019, 29, 065004.	2.6	25
42	Design, fabrication and testing of a compact large-field-of-view infrared compound eye imaging system by precision glass molding. Precision Engineering, 2020, 66, 87-98.	3.4	24
43	Fabrication of precision 3D microstructures by use of a combination of ultraprecision diamond turning and reactive ion etching process. Journal of Micromechanics and Microengineering, 2007, 17, 883-890.	2.6	23
44	Replication characterization of microribs fabricated by combining ultraprecision machining and microinjection molding. Polymer Engineering and Science, 2010, 50, 2021-2030.	3.1	23
45	Rapid localized heating of graphene coating on a silicon mold by induction for precision molding of polymer optics. Optics Letters, 2017, 42, 1369.	3.3	23
46	A computer controlled optical pin polishing machine. Journal of Materials Processing Technology, 2004, 146, 156-162.	6.3	22
47	Refractive index and dispersion variation in precision optical glass molding by computed tomography. Applied Optics, 2009, 48, 3588.	2.1	22
48	Investigation on the friction coefficient between graphene-coated silicon and glass using barrel compression test. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2015, 33, .	1.2	22
49	Compression molding of glass freeform optics using diamond machined silicon mold. Manufacturing Letters, 2014, 2, 17-20.	2.2	21
50	Design and fabrication of a freeform microlens array for uniform beam shaping. Microsystem Technologies, 2011, 17, 1713-1720.	2.0	20
51	Quantitatively measurement and analysis of residual stresses in molded aspherical glass lenses. International Journal of Advanced Manufacturing Technology, 2014, 74, 1167-1174.	3.0	20
52	Bulk metallic glass mold for high volume fabrication of micro optics. Microsystem Technologies, 2016, 22, 617-623.	2.0	19
53	Design and fabrication of freeform glass concentrating mirrors using a high volume thermal slumping process. Solar Energy Materials and Solar Cells, 2011, 95, 1654-1664.	6.2	17
54	Finite Element Calculation of Refractive Index in Optical Glass Undergoing Viscous Relaxation and Analysis of the Effects of Cooling Rate and Material Properties. International Journal of Applied Glass Science, 2012, 3, 263-274.	2.0	17

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55	Investigation of thermoforming mechanism and optical propertiesâ€™ change of chalcogenide glass in precision glass molding. Applied Optics, 2018, 57, 6358.	1.8	17
56	Investigation of the effect of coefficient of thermal expansion on prediction of refractive index of thermally formed glass lenses using FEM simulation. Journal of Non-Crystalline Solids, 2011, 357, 3006-3012.	3.1	16
57	Design and fabrication of an affordable polymer micromixer for medical and biomedical applications. Polymer Engineering and Science, 2010, 50, 1594-1604.	3.1	15
58	Investigation of glass thickness effect on thermal slumping by experimental and numerical methods. Journal of Materials Processing Technology, 2011, 211, 1995-2003.	6.3	15
59	Design, fabrication, and testing of a Shackâ€™Hartmann sensor with an automatic registration feature. Applied Optics, 2016, 55, 7892.	2.1	14
60	Fabrication of spherical microlens array by combining lapping on silicon wafer and rapid surface molding. Journal of Micromechanics and Microengineering, 2018, 28, 075008.	2.6	14
61	Investigation of index change in compression molding of As <sub>40</sub> Se <sub>50</sub> S <sub>10</sub> chalcogenide glass. Applied Optics, 2018, 57, 4245.	1.8	14
62	Investigation of the refractive index distribution in precision compression glass molding by use of 3D tomography. Measurement Science and Technology, 2009, 20, 055109.	2.6	12
63	Chatter Identification of Three-Dimensional Elliptical vibration Cutting Process Based on Empirical Mode Decomposition and Feature Extraction. Applied Sciences (Switzerland), 2019, 9, 21.	2.5	11
64	Effects of Machining Errors on Optical Performance of Optical Aspheric Components in Ultra-Precision Diamond Turning. Micromachines, 2020, 11, 331.	2.9	11
65	An affordable injection-molded precision hybrid glassâ€™polymer achromatic lens. International Journal of Advanced Manufacturing Technology, 2013, 69, 1461-1467.	3.0	10
66	Annealing of Compression Molded Aspherical Glass Lenses. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2014, 136, .	2.2	10
67	Fabrication of polymeric lenses using magnetic liquid molds. Applied Physics Letters, 2019, 114, .	3.3	10
68	Layered chalcogenide glass structures for IR lenses. Proceedings of SPIE, 2014, , .	0.8	9
69	Simulation and Measurement of Refractive Index Variation in Localized Rapid Heating Molding for Polymer Optics. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2018, 140, .	2.2	9
70	Friction modeling of tool-chip interface based on shear-slip theory for vibration assisted swing cutting. Journal of Manufacturing Processes, 2020, 55, 240-248.	5.9	9
71	Flexible fabrication of Fresnel micro-lens array by off-spindle-axis diamond turning and precision glass molding. Precision Engineering, 2022, 74, 186-194.	3.4	9
72	Micro-optical fabrication by ultraprecision diamond machining and precision molding. Frontiers of Mechanical Engineering, 2017, 12, 181-192.	4.3	8

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73	Modeling and Analysis of a Novel Decoupled Vibration-Assisted Swing Cutting System for Micro/Nano-Machining Surface. IEEE Access, 2018, 6, 70388-70396.	4.2	8
74	Highly Oriented Graphitic Networks Grown by Chemical Vapor Deposition as Thermal Interface Materials. Industrial & Engineering Chemistry Research, 2020, 59, 22501-22508.	3.7	8
75	Study on vibration-assisted thermal nanoimprint lithography. Applied Nanoscience (Switzerland), 2020, 10, 3315-3324.	3.1	8
76	Manufacturing of a precision 3D microlens array on a steep curved substrate by injection molding process. Advanced Optical Technologies, 2013, 2, 257-268.	1.7	7
77	Design and fabrication of a compound-eye system using precision molded chalcogenide glass freeform microlens arrays. Optik, 2018, 171, 294-303.	2.9	7
78	3D fabrication of spherical microlens arrays on concave and convex silica surfaces. Microsystem Technologies, 2019, 25, 361-370.	2.0	7
79	Development of a Novel Three Degrees-of-Freedom Rotary Vibration-Assisted Micropolishing System Based on Piezoelectric Actuation. Micromachines, 2019, 10, 502.	2.9	6
80	A nonlinear Wiener system identification based on improved adaptive step-size glowworm swarm optimization algorithm for three-dimensional elliptical vibration cutting. International Journal of Advanced Manufacturing Technology, 2019, 103, 2865-2877.	3.0	6
81	A tool path generation method for quasi-intermittent vibration assisted swing cutting. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2020, 234, 624-633.	2.5	6
82	Replication of plastic microlens arrays using electroforming and precision compression molding. Microelectronic Engineering, 2021, 239-240, 111529.	2.4	6
83	Fabrication of large-scale infrared diffractive lens arrays on chalcogenide glass by means of step-and-repeat hot imprinting and non-isothermal glass molding. International Journal of Advanced Manufacturing Technology, 2021, 116, 3075-3085.	3.0	6
84	Design, analysis, and testing of a novel 2-DOF vibration-assisted polishing device driven by the piezoelectric actuators. International Journal of Advanced Manufacturing Technology, 2020, 111, 471-493.	3.0	6
85	An integrated approach to design and fabrication of a miniature endoscope using freeform optics. Advanced Optical Technologies, 2016, 5, 335-342.	1.7	5
86	Analytical Prediction of Subsurface Damages and Surface Quality in Vibration-Assisted Polishing Process of Silicon Carbide Ceramics. Materials, 2019, 12, 1690.	2.9	5
87	Fabrication of Plano-Concave Plastic Lens by Novel Injection Molding Using Carbide-Bonded Graphene-Coated Silica Molds. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2019, 141, .	2.2	5
88	Investigation of mid-infrared rapid heating of a carbide-bonded graphene coating and its applications in precision optical molding. Optics Express, 2021, 29, 30761.	3.4	5
89	Manufacturing of a microlens array mold by a two-step method combining microindentation and precision polishing. Applied Optics, 2020, 59, 6945.	1.8	5
90	Flexible metallic mold based precision compression molding for replication of micro-optical components onto non-planar surfaces. Precision Engineering, 2022, 76, 149-159.	3.4	5

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91	Improved differential evolutionary algorithm for nonlinear identification of a novel vibration-assisted swing cutting system. International Journal of Adaptive Control and Signal Processing, 2019, 33, 1066-1078.	4.1	4
92	Modeling and realization of work-space analysis of a piezoelectric actuator 2-DOF vibration-assisted swing cutting system. Applied Nanoscience (Switzerland), 2021, 11, 777-785.	3.1	4
93	Fabrication of Fresnel lens arrays by a rapid non-isothermal imprinting process. Applied Optics, 2021, 60, 351.	1.8	4
94	Fabrication of aspherical polymeric lenses using tunable ferrogel molds. Applied Optics, 2020, 59, 2632.	1.8	4
95	Numerical Simulation of Compression Molding of Aspherical Glass Lenses. AIP Conference Proceedings, 2004, , .	0.4	3
96	Design, analysis and preliminary tests of a linear array CCD aerial camera for ground simulation. Optik, 2020, 200, 163378.	2.9	2
97	Microinjection Molding of Polymer Micromixers for Biomedical Application. Applied Mechanics and Materials, 2011, 138-139, 941-945.	0.2	1
98	Experimental Investigation of the Mold Surface Roughness Effect in Microinjection Molding. Applied Mechanics and Materials, 0, 138-139, 1258-1262.	0.2	1
99	Process Chain for the Replication of Complex Optical Glass Components. Lecture Notes in Production Engineering, 2013, , 119-132.	0.4	1
100	Thermal Reflow Process for Glass Microlens Manufacturing. , 2008, , .		0
101	Topical issue on plastic optics. Advanced Optical Technologies, 2016, 5, 275-276.	1.7	0
102	Design and analysis of ground-based operation test bench for complex optical machine functional components. AIP Advances, 2019, 9, 095203.	1.3	0
103	Coloration of Surfaces With Periodic Microstructures Replicated by Nonisothermal Precision Molding. Journal of Micro and Nano-Manufacturing, 2020, 8, .	0.7	0