

# David D Walker

## List of Publications by Year in descending order

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64  
papers

1,345  
citations

623734

14  
h-index

434195

31  
g-index

64  
all docs

64  
docs citations

64  
times ranked

327  
citing authors

#	ARTICLE	IF	CITATIONS
1	The "Precessions" tooling for polishing and figuring flat, spherical and aspheric surfaces. Optics Express, 2003, 11, 958.	3.4	261
2	Pseudo-random tool paths for CNC sub-aperture polishing and other applications. Optics Express, 2008, 16, 18942.	3.4	135
3	Use of the "Precessions" process for prepolishing and correcting 2D & 2½D form. Optics Express, 2006, 14, 11787.	3.4	79
4	Novel automated process for aspheric surfaces. , 2000, , .		70
5	Edges in CNC polishing: from mirror-segments towards semiconductors, paper 1: edges on processing the global surface. Optics Express, 2012, 20, 19787.	3.4	63
6	Edge control in CNC polishing, paper 2: simulation and validation of tool influence functions on edges. Optics Express, 2013, 21, 370.	3.4	56
7	<title>First aspheric form and texture results from a production machine embodying the precession process</title>. , 2001, 4451, 267.		51
8	Modeling and validation of polishing tool influence functions for manufacturing segments for an extremely large telescope. Applied Optics, 2013, 52, 5781.	1.8	45
9	Precessions process for efficient production of aspheric optics for large telescopes and their instrumentation. , 2003, , .		40
10	Zeeko/UCL process for polishing large lenses and prisms. , 2002, , .		39
11	Novel CNC polishing process for control of form and texture on aspheric surfaces. , 2002, , .		34
12	Subsurface damage in precision ground ULE® and Zerodur® surfaces. Optics Express, 2007, 15, 12197.	3.4	33
13	Simulation and validation of a prototype swing arm profilometer for measuring extremely large telescope mirror-segments. Optics Express, 2010, 18, 2036.	3.4	33
14	Surface Integrity of Fluid Jet Polished Tungsten Carbide. Procedia CIRP, 2014, 13, 377-381.	1.9	33
15	Measurement of influence function using swing arm profilometer and laser tracker. Optics Express, 2010, 18, 5271.	3.4	31
16	Implementing a grolishing process in Zeeko IRP machines. Applied Optics, 2012, 51, 6637.	1.8	29
17	The Euro50 Extremely Large Telescope. , 2003, , .		26
18	New results from the Precessions polishing process scaled to larger sizes. , 2004, , .		24

#	ARTICLE	IF	CITATIONS
19	Modelling and measurement of polishing tool influence functions for edge control. Journal of the European Optical Society-Rapid Publications, 0, 6, .	1.9	23
20	Combined processing chain for freeform optics based on atmospheric pressure plasma processing and bonnet polishing. Optics Express, 2019, 27, 17979.	3.4	21
21	Simulation and experimental study on form-preserving capability of bonnet polishing for complex freeform surfaces. Precision Engineering, 2019, 60, 54-62.	3.4	19
22	Mid-spatial frequency removal on aluminum free-form mirror. Optics Express, 2019, 27, 24885.	3.4	17
23	Misfit of rigid tools and interferometer subapertures on off-axis aspheric mirror segments. Optical Engineering, 2011, 50, 073401.	1.0	14
24	Research on fabrication of mirror segments for E-ELT. , 2012, , .		13
25	Recent developments of Precessions polishing for larger components and free-form surfaces. , 2004, , .		11
26	Insight into aspheric misfit with hard tools: mapping the island of low mid-spatial frequencies. Applied Optics, 2017, 56, 9925.	1.8	11
27	A concept for a superconducting tunnelling junction based spectrograph. Monthly Notices of the Royal Astronomical Society, 2003, 344, 33-44.	4.4	9
28	Novel laser datum system for nanometric profilometry for large optical surfaces. Optics Express, 2003, 11, 624.	3.4	9
29	Research on edge-control methods in CNC polishing. Journal of the European Optical Society-Rapid Publications, 2017, 13, 24.	1.9	9
30	<title>Computer-controlled polishing of moderate-sized general aspherics for instrumentation</title>. , 1998, 3355, 947.		8
31	Novel hybrid stylus for nanometric profilometry for large optical surfaces. Optics Express, 2003, 11, 1793.	3.4	7
32	Process Automation in Computer Controlled Polishing. Advanced Materials Research, 0, 1136, 684-689.	0.3	7
33	Title advances in optical fabrication for astronomy. Monthly Notices of the Royal Astronomical Society, 2019, 485, 2071-2082.	4.4	7
34	<title>OGLP-400: an innovative computer-controlled polishing machine</title>. , 1996, , .		6
35	Adaptive secondary mirror demonstrator: design and simulation. Optical Engineering, 1999, 38, 1456.	1.0	6
36	Active profiling and polishing for efficient control of material removal from large precision surfaces with moderate asphericity. Mechatronics, 2003, 13, 295-312.	3.3	6

#	ARTICLE	IF	CITATIONS
37	Coordinate transformation of an industrial robot and its application in deterministic optical polishing. Optical Engineering, 2014, 53, 055102.	1.0	6
38	Fundamental steps toward next-generation intelligent automatic process in a faster and cost-effective chain for processing optical surfaces. Optics Express, 2019, 27, 21856.	3.4	6
39	Research on edge control in the process of polishing using ultra precise bonnet on optical elements. Proceedings of SPIE, 2010, , .	0.8	5
40	Performance of a cryogenic test facility for 4 K interferometer delay line investigations. Proceedings of SPIE, 2016, , .	0.8	4
41	Surface Texture Evolution of Fused Silica in a Combined Process of Atmospheric Pressure Plasma Processing and Bonnet Polishing. Coatings, 2019, 9, 676.	2.6	4
42	Manufacture of segments for extremely large telescopes: a new perspective. , 2004, , .		3
43	Advanced Abrasive Processes for Manufacturing Prototype Mirror Segments for the World's Largest Telescope. Advanced Materials Research, 2014, 1017, 532-538.	0.3	3
44	The role of robotics in computer controlled polishing of large and small optics. Proceedings of SPIE, 2015, , .	0.8	3
45	Study of footprint variations of CCP considering machine kinematics. EPJ Web of Conferences, 2019, 215, 05004.	0.3	3
46	Advanced techniques for robotic polishing of aluminum mirrors. , 2018, , .		3
47	Rugged adaptive telescope secondaries: experience with a demonstrator mirror. , 1998, , .		2
48	Dynamic measurement of displacement with phase-shifting technique. Optical Engineering, 2003, 42, 2006.	1.0	2
49	Alignment and arm length measurement of the swing arm profilometer using a laser tracker. , 2010, , .		2
50	Optimisation of grolishing freeform surfaces with rigid and semi-rigid tools. , 2016, , .		2
51	More steps towards process automation for optical fabrication. , 2017, , .		2
52	Rigid aspheric smoothing tool for mid-spatial frequency errors on aspheric or freeform optical surfaces. Journal of the European Optical Society-Rapid Publications, 2019, 15, .	1.9	2
53	A novel hyper-crossing tool path generation algorithm for sub-aperture polishing. , 2018, , .		2
54	<title>Ultrastable high-resolution spectrographs for large telescopes</title>. , 1998, , .		1

#	ARTICLE	IF	CITATIONS
55	Measurement of two-dimensional distribution of pure axial force in active polishing. Measurement Science and Technology, 2001, 12, 1976-1982.	2.6	1
56	Progress on development of prototype laser reference system for stylus profilometry of large optics. , 2002, , .		1
57	Active edge control in the precessions polishing process for manufacturing large mirror segments. Proceedings of SPIE, 2014, , .	0.8	1
58	CFRP mirror technology for cryogenic space interferometry: review and progress to date. Proceedings of SPIE, 2016, , .	0.8	1
59	Analysis of tool-mass-acceleration effects onto sub-aperture computer controlled polishing (CCP). , 2016, , .		1
60	Accidental and methodical defects of generation of precision and ultraprecision surfaces of polymer optics. , 2002, , .		0
61	Dimensional metrology of mirror segments for extremely large telescopes. , 2004, , .		0
62	The LOw Cost Upper atmosphere Sounder: The "elegant breadboard" programme. , 2015, , .		0
63	Closing the metrology/process loop in CNC polishing. Proceedings of SPIE, 2016, , .	0.8	0
64	Steps toward Efficient Mosaic CCD System Design. Publications of the Astronomical Society of the Pacific, 1996, 108, 1028.	3.1	0