Salvador BarÃ¡

List of Publications by Year
in descending order

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123	1,905	279701 23	315616 38
papers	citations	h-index	g-index

125	125	125	912
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Nonparaxial design of generalized axicons. Applied Optics, 1992, 31, 5326.	2.1	123
2	Phase plates for wave-aberration compensation in the human eye. Optics Letters, 2000, 25, 236.	1.7	122
3	Phase retardation of the uniform-intensity axilens. Optics Letters, 1992, 17, 7.	1.7	98
4	Positioning tolerances for phase plates compensating aberrations of the human eye. Applied Optics, 2000, 39, 3413.	2.1	84
5	The Light Sword Optical Elementâ€"a New Diffraction Structure with Extended Depth of Focus. Journal of Modern Optics, 1990, 37, 1283-1286.	0.6	76
6	Contrast improvement of confocal retinal imaging by use of phase-correcting plates. Optics Letters, 2002, 27, 400.	1.7	57
7	Direct transformation of Zernike eye aberration coefficients between scaled, rotated, and/or displaced pupils. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 2061.	0.8	56
8	The time course of the effects of central and peripheral cues on visual processing: an event-related potentials study. Clinical Neurophysiology, 2004, 115, 199-210.	0.7	54
9	Presbyopia Compensation with a Quartic Axicon. Optometry and Vision Science, 2005, 82, 1071-1078.	0.6	52
10	Anthropogenic disruption of the night sky darkness in urban and rural areas. Royal Society Open Science, 2016, 3, 160541.	1.1	50
11	Position and displacement sensing with Shackâ€"Hartmann wave-front sensors. Applied Optics, 2000, 39, 1511.	2.1	45
12	Estimating the relative contribution of streetlights, vehicles, and residential lighting to the urban night sky brightness. Lighting Research and Technology, 2019, 51, 1092-1107.	1.2	40
13	Measurement and compensation of optical aberrations using a single spatial light modulator. Optics Express, 2007, 15, 15287.	1.7	37
14	Imaging with extended focal depth by means of the refractive light sword optical element. Optics Express, 2008, 16, 18371.	1.7	32
15	Monitoring Long-Term Trends in the Anthropogenic Night Sky Brightness. Sustainability, 2019, 11, 3070.	1.6	30
16	Strehl ratios characterizing optical elements designed for presbyopia compensation. Optics Express, 2011, 19, 8693.	1.7	29
17	Ground-based hyperspectral analysis of the urban nightscape. ISPRS Journal of Photogrammetry and Remote Sensing, 2017, 124, 16-26.	4.9	29
18	Absolute Radiometric Calibration of TESS-W and SQM Night Sky Brightness Sensors. Sensors, 2019, 19, 1336.	2.1	29

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19	Determination of phase mode components in terms of local wave-front slopes: an analytical approach. Optics Letters, 1995, 20, 1083.	1.7	28
20	Variable aberration generators using rotated Zernike plates. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2005, 22, 1993.	0.8	27
21	The proliferation of space objects is a rapidly increasing source of artificial night sky brightness. Monthly Notices of the Royal Astronomical Society: Letters, 2021, 504, L40-L44.	1.2	27
22	A multiband map of the natural night sky brightness including Gaia and Hipparcos integrated starlight. Monthly Notices of the Royal Astronomical Society, 2021, 501, 5443-5456.	1.6	26
23	Modulations of the visual N1 component of event-related potentials by central and peripheral cueing. Clinical Neurophysiology, 2005, 116, 807-820.	0.7	25
24	Visual Strehl Performance of IOL Designs with Extended Depth of Focus. Optometry and Vision Science, 2012, 89, 1702-1707.	0.6	25
25	Statistical modelling and satellite monitoring of upward light from public lighting. Lighting Research and Technology, 2016, 48, 810-822.	1.2	24
26	Light pollution offshore: Zenithal sky glow measurements in the mediterranean coastal waters. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 210, 91-100.	1.1	23
27	Measuring eye aberrations with Hartmannâ€“Shack wave-front sensors: Should the irradiance distribution across the eye pupil be taken into account?. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 2237.	0.8	22
28	Sampling geometries for ocular aberrometry: A model for evaluation of performance. Optics Express, 2005, 13, 8801.	1.7	21
29	Imaging properties of the light sword optical element used as a contact lens in a presbyopic eye model. Optics Express, 2011, 19, 25602.	1.7	21
30	Magnitude to luminance conversions and visual brightness of the night sky. Monthly Notices of the Royal Astronomical Society, 2020, 493, 2429-2437.	1.6	18
31	Monitoring transition: Expected night sky brightness trends in different photometric bands. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 239, 106644.	1.1	17
32	Modulated On-axis Circular Zone Plates for a Generation of Three-dimensional Focal Curves. Journal of Modern Optics, 1990, 37, 1287-1295.	0.6	16
33	Hartmann sensing with Albrecht grids. Optics Communications, 1997, 133, 443-453.	1.0	16
34	Wide-field compensation of monochromatic eye aberrations: expected performance and design trade-offs. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 1.	0.8	16
35	Synthetic RGB photometry of bright stars: definition of the standard photometric system and UCM library of spectrophotometric spectra. Monthly Notices of the Royal Astronomical Society, 2021, 504, 3730-3748.	1.6	15
36	Computing light pollution indicators for environmental assessment. Natural Sciences, 2021, 1, e10019.	1.0	15

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37	A linear systems approach to protect the night sky: implications for current and future regulations. Royal Society Open Science, 2020, 7, 201501.	1.1	15
38	Photons without borders: quantifying light pollution transfer between territories. International Journal of Sustainable Lighting, 2018, 20, 51-61.	1.2	15
39	Multiple Angle Observations Would Benefit Visible Band Remote Sensing Using Night Lights. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	15
40	A New Calibration Set of Phase Plates for Ocular Aberrometers. Journal of Refractive Surgery, 2006, 22, 275-284.	1.1	14
41	Determination of basic grids for subtractive moire patterns. Applied Optics, 1991, 30, 1258.	2.1	13
42	Minimum-variance phase reconstruction from Hartmann sensors with circular subpupils. Optics Communications, 1998, 148, 225-229.	1.0	13
43	Reconfigurable Shackâ€“Hartmann sensor without moving elements. Optics Letters, 2010, 35, 1338.	1.7	13
44	Closed-loop adaptive optics with a single element for wavefront sensing and correction. Optics Letters, 2011, 36, 3702.	1.7	13
45	Characterizing the zenithal night sky brightness in large territories: how many samples per square kilometre are needed?. Monthly Notices of the Royal Astronomical Society, 2018, 473, 4164-4173.	1.6	13
46	Aerosol characterization using satellite remote sensing of light pollution sources at night. Monthly Notices of the Royal Astronomical Society: Letters, 2020, 495, L76-L80.	1.2	13
47	Modal phase estimation from wavefront curvature sensing. Optics Communications, 1996, 123, 453-456.	1.0	12
48	Keeping light pollution at bay: A red-lines, target values, top-down approach. Environmental Challenges, 2021, 5, 100212.	2.0	12
49	Estimation-induced correlations of the Zernike coefficients of the eye aberration. Optics Letters, 2006, 31, 2646.	1.7	11
50	Hybrid technique for high resolution imaging of the eye fundus. Optics Express, 2003, 11, 761.	1.7	10
51	Changes of ocular aberrations with gaze. Ophthalmic and Physiological Optics, 2009, 29, 264-271.	1.0	10
52	The contribution of the fixational eye movements to the variability of the measured ocular aberration. Ophthalmic and Physiological Optics, 2009, 29, 281-287.	1.0	10
53	Fast Fourier-transform calculation of artificial night sky brightness maps. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 240, 106658.	1.1	10
54	Analytic design of computer-generated Fourier-transform holograms for plane curves reconstruction. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1991, 8, 559.	0.8	9

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55	Pupil tracking with a Hartmann-Shack wavefront sensor. Journal of Biomedical Optics, 2010, 15, 036022.	1.4	9
56	Contrast transfer characteristics of the light sword optical element designed for presbyopia compensations. Journal of the European Optical Society-Rapid Publications, 0, 6, .	0.9	9
57	Zernike power spectra of clear and cloudy light-polluted urban night skies. Applied Optics, 2015, 54, 4120.	2.1	9
58	Evaluating Human Photoreceptoral Inputs from Night-Time Lights Using RGB Imaging Photometry. Journal of Imaging, 2019, 5, 49.	1.7	9
59	Night sky brightness simulation over Montsec protected area. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 249, 106990.	1.1	9
60	Variations on a classical theme: On the formal relationship between magnitudes per square arcsecond and luminance. International Journal of Sustainable Lighting, 2017, 19, 104.	1.2	9
61	Diffuse light around cities: New perspectives in satellite remote sensing of nighttime aerosols. Atmospheric Research, 2022, 266, 105969.	1.8	9
62	Holographically Produced Parabolic Zone Plates. Optical Engineering, 1987, 26, 265461.	0.5	8
63	A Holographic Optical Element for Non-symmetric Fourier Transform Systems. Journal of Modern Optics, 1989, 36, 21-30.	0.6	8
64	Efficient compensation of Zernike modes and eye aberration patterns using low-cost spatial light modulators. Journal of Biomedical Optics, 2007, 12, 014037.	1.4	8
65	Estimating the eye aberration coefficients in resized pupils: is it better to refit or to rescale?. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2014, 31, 114.	0.8	8
66	Zernike analysis of all-sky night brightness maps. Applied Optics, 2014, 53, 2677.	0.9	8
67	Modal evaluation of the anthropogenic night sky brightness at arbitrary distances from a light source. Journal of Optics (United Kingdom), 2015, 17, 105607.	1.0	8
68	Night-time monitoring of the aerosol content of the lower atmosphere by differential photometry of the anthropogenic skyglow. Monthly Notices of the Royal Astronomical Society: Letters, 2020, 500, L47-L51.	1.2	8
69	Integral evaluation of the modal phase coefficients in curvature sensing: Albrechtâ€™s cubatures. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1996, 13, 1467.	0.8	7
70	Modal wavefront projectors of minimum error norm. Optics Communications, 1998, 155, 251-254.	1.0	7
71	Equilateral hyperbolic moirï¿½ zone plates with variable focus obtained by rotations. Optics Express, 2005, 13, 918.	1.7	7
72	Direct assessment of the sensitivity drift of SQM sensors installed outdoors. International Journal of Sustainable Lighting, 2021, 23, 1-6.	1.2	7

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73	Interferometric monitoring of surface shaping processes in microlenses produced by melting photoresist. Journal of Modern Optics, 1998, 45, 1029-1037.	0.6	6
74	Characteristic functions of Hartmann-Shack wavefront sensors and laser-ray-tracing aberrometers. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 3700.	0.8	6
75	Equivalence of least-squares estimation of eye aberrations in linearly transformed reference frames. Optics Communications, 2008, 281, 2716-2721.	1.0	6
76	Two-index model for characterizing site-specific night sky brightness patterns. Monthly Notices of the Royal Astronomical Society, 2019, 490, 1953-1960.	1.6	6
77	An enhanced version of the Gaia map of the brightness of the natural sky. International Journal of Sustainable Lighting, 2022, 24, 1-12.	1.2	6
78	Computer-generated fourier transform holograms focusing in 2D curves. Optics Communications, 1990, 77, 360-364.	1.0	5
79	On lamps, walls, and eyes: The spectral radiance field and the evaluation of light pollution indoors. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 205, 267-277.	1.1	5
80	Interferometric alignment using parabolic and off-axis conical zone plates. Applied Optics, 1990, 29, 4614.	2.1	4
81	Translational and rotational pupil tracking by use of wavefront aberration data and image registration techniques. Optics Letters, 2006, 31, 1642.	1.7	4
82	Signal-to-noise ratio and aberration statistics in ocular aberrometry. Optics Letters, 2012, 37, 2427.	1.7	4
83	On the Relation between the Astronomical and Visual Photometric Systems in Specifying the Brightness of the Night Sky for Mesopically Adapted Observers. LEUKOS - Journal of Illuminating Engineering Society of North America, 0, , 1-12.	1.5	4
84	RGB photometric calibration of 15 million Gaia stars. Monthly Notices of the Royal Astronomical Society, 2021, 507, 318-329.	1.6	4
85	Estimating linear radiance indicators from the zenith night-sky brightness: on the Posch ratio for natural and light-polluted skies. Monthly Notices of the Royal Astronomical Society, 2022, 512, 2125-2134.	1.6	4
86	Method for scaling the output focal curves formed by computer generated zone plates. Optics and Laser Technology, 1991, 23, 303-307.	2.2	3
87	Hartmann sensing of random phase fields with uncertain Fried parameter. Optics Communications, 1998, 152, 247-251.	1.0	3
88	Significance of the recovery filter in deconvolution from wavefront sensing. Optical Engineering, 2000, 39, 2789.	0.5	3
89	Centroid displacement statistics of the eye aberration. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2010, 27, 1818.	0.8	3
90	Finite-area centroid propagation in homogeneous media and range of validity of the Optical Ehrenfest's Theorem. Optics Communications, 2011, 284, 2455-2459.	1.0	3

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91	Multispectral estimation of retinal photoreceptoral inputs. Photonics Letters of Poland, 2019, 11, 60.	0.2	3
92	Black-body luminance and magnitudes per square arcsecond in the Johnson-Cousins BVR photometric bands. Photonics Letters of Poland, 2019, 11, 63.	0.2	3
93	Tilting and shearing determination in the alignment of a Mach-Zehnder interferometer by zone plates. Optics and Laser Technology, 1988, 20, 89-94.	2.2	2
94	Modulated Circular Zone Plates: Focusing in 2D Curves. Journal of Modern Optics, 1991, 38, 81-88.	0.6	2
95	Analytic design of computer-generated holograms focusing in nonplanar curves. Optics Communications, 1993, 101, 306-310.	1.0	2
96	Modal projectors for linear operators in Optics. Optics Communications, 1999, 162, 211-214.	1.0	2
97	Efficiency of optimum Kolmogorov estimators for different atmospheric statistics: Hartmann test. Optics Communications, 1999, 165, 163-170.	1.0	2
98	Dynamic wavefront sensing and correction with low-cost twisted nematic spatial light modulators. Journal of Physics: Conference Series, 2010, 206, 012018.	0.3	2
99	Green Laser Pointers for Visual Astronomy: How Much Power Is Enough?. Optometry and Vision Science, 2010, 87, 140-144.	0.6	2
100	Light pollution and solid-state lighting: reducing the carbon dioxide footprint is not enough. , 2013, , .		2
101	Light pollution: Why should we care?. Proceedings of SPIE, 2014, , .	0.8	2
102	Research note: Calculating spectral irradiance indoors. Lighting Research and Technology, 2017, 49, 122-127.	1.2	2
103	Nighttime Atmospheric Scattering Phase Function Derived From the Scattered Light of a Laser Beam. Geophysical Research Letters, 2022, 49, .	1.5	2
104	Axial Displacement and Tilting Control of a Plane Surface Using a Circular Zone Plate. Journal of Modern Optics, 1991, 38, 925-933.	0.6	1
105	Closed-loop adaptive optics with a single Spatial Light Modulator. , 2011, , .		1
106	Synthetic aperture wavefront sensing. Optical Engineering, 2013, 53, 061703.	0.5	1
107	Can we illuminate our cities and (still) see the stars?. International Journal of Sustainable Lighting, 2021, 23, 58-69.	1.2	1
108	Dynamic Wavefront Sensing and Correction with Low-Cost Twisted Nematic Spatial Light Modulators. , 2010, , 63-76.		1

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109	Common-path interferometer using Fresnel zone plate with initial phase shift: metrological uses. , 1990, 1319, 321.		0
110	Calculation of minimum-variance estimators for Hartmann sensing using random wave vector simulations. Journal of Optics, 2001, 3, 120-125.	1.5	0
111	<title>Photolithography for the static compensation of human eye aberrations</title>. , 2004, , .		0
112	Determining Longitude: A Brief History. Physics Today, 2005, 58, 15-16.	0.3	0
113	Application of an optimized low-cost spatial light modulator for efficient compensation of eye aberration patterns. , 2007, , .		0
114	Achromatic imaging by means of the refractive light sword optical element. Proceedings of SPIE, 2008, , .	0.8	0
115	Presbyopia compensation with a light sword optical element. , 2008, , .		0
116	Close-loop adaptive optics using a single spatial light modulator. , 2011, , .		0
117	Centroid propagation through optical systems with ABCD kernels and nonuniform or finite apertures. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 1524.	0.8	0
118	Centroid propagation through optical systems with ABCD kernels and non-uniform or finite apertures. , 2011, , .		0
119	Metaadaptive optics. , 2011, , .		0
120	Wavefront aberration statistics in normal eye populations: are they well described by the Kolmogorov model?. Optics Letters, 2014, 39, 3197.	1.7	0
121	LOW-COST SPATIAL LIGHT MODULATORS FOR OPHTHALMIC APPLICATIONS â€“ Poster Paper. , 2008, , .		0
122	A new calibration set of phase plates for ocular aberrometers. Journal of Refractive Surgery, 2006, 22, 275-84.	1.1	0
123	Towards a global map of the artificial all-sky brightness. Monthly Notices of the Royal Astronomical Society: Letters, 2022, 513, L25-L29.	1.2	0