Salvador BarÃ¡

List of Publications by Year
in descending order

123 papers	1,905 citations	279701 23 h-index	315616 38 g-index
125 all docs	125 docs citations	125 times ranked	912 citing authors

#	Article	IF	Citations
1	Diffuse light around cities: New perspectives in satellite remote sensing of nighttime aerosols. Atmospheric Research, 2022, 266, 105969.	1.8	9
2	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
3	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
4	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
5	Nighttime Atmospheric Scattering Phase Function Derived From the Scattered Light of a Laser Beam. Geophysical Research Letters, 2022, 49, .	1.5	2
6	Multiple Angle Observations Would Benefit Visible Band Remote Sensing Using Night Lights. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	15
7	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
8	Direct assessment of the sensitivity drift of SQM sensors installed outdoors. International Journal of Sustainable Lighting, 2021, 23, 1-6.	1.2	7
9	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
10	Computing light pollution indicators for environmental assessment. Natural Sciences, 2021, 1, e10019.	1.0	15
11	RGB photometric calibration of 15 million Gaia stars. Monthly Notices of the Royal Astronomical Society, 2021, 507, 318-329.	1.6	4
12	Keeping light pollution at bay: A red-lines, target values, top-down approach. Environmental Challenges, 2021, 5, 100212.	2.0	12
13	A multiband map of the natural night sky brightness including <i>Gaia</i> and <i>Hipparcos</i> integrated starlight. Monthly Notices of the Royal Astronomical Society, 2021, 501, 5443-5456.	1.6	26
14	Can we illuminate our cities and (still) see the stars?. International Journal of Sustainable Lighting, 2021, 23, 58-69.	1.2	1
15	Fast Fourier-transform calculation of artificial night sky brightness maps. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 240, 106658.	1.1	10
16	Night sky brightness simulation over Montsec protected area. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 249, 106990.	1.1	9
17	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
18	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

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19	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
20	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
21	Monitoring transition: Expected night sky brightness trends in different photometric bands. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 239, 106644.	1.1	17
22	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
23	Monitoring Long-Term Trends in the Anthropogenic Night Sky Brightness. Sustainability, 2019, 11, 3070.	1.6	30
24	Evaluating Human Photoreceptoral Inputs from Night-Time Lights Using RGB Imaging Photometry. Journal of Imaging, 2019, 5, 49.	1.7	9
25	Absolute Radiometric Calibration of TESS-W and SQM Night Sky Brightness Sensors. Sensors, 2019, 19, 1336.	2.1	29
26	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
27	Multispectral estimation of retinal photoreceptoral inputs. Photonics Letters of Poland, 2019, 11, 60.	0.2	3
28	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
29	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
30	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
31	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
32	Photons without borders: quantifying light pollution transfer between territories. International Journal of Sustainable Lighting, 2018, 20, 51-61.	1.2	15
33	Research note: Calculating spectral irradiance indoors. Lighting Research and Technology, 2017, 49, 122-127.	1.2	2
34	Ground-based hyperspectral analysis of the urban nightscape. ISPRS Journal of Photogrammetry and Remote Sensing, 2017, 124, 16-26.	4.9	29
35	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
36	Anthropogenic disruption of the night sky darkness in urban and rural areas. Royal Society Open Science, 2016, 3, 160541.	1.1	50

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37	Statistical modelling and satellite monitoring of upward light from public lighting. Lighting Research and Technology, 2016, 48, 810-822.	1.2	24
38	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
39	Zernike power spectra of clear and cloudy light-polluted urban night skies. Applied Optics, 2015, 54, 4120.	2.1	9
40	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
41	Wavefront aberration statistics in normal eye populations: are they well described by the Kolmogorov model?. Optics Letters, 2014, 39, 3197.	1.7	0
42	Zernike analysis of all-sky night brightness maps. Applied Optics, 2014, 53, 2677.	0.9	8
43	Light pollution: Why should we care?. Proceedings of SPIE, 2014, , .	0.8	2
44	Light pollution and solid-state lighting: reducing the carbon dioxide footprint is not enough. , 2013, , .		2
45	Synthetic aperture wavefront sensing. Optical Engineering, 2013, 53, 061703.	0.5	1
46	Signal-to-noise ratio and aberration statistics in ocular aberrometry. Optics Letters, 2012, 37, 2427.	1.7	4
47	Visual Strehl Performance of IOL Designs with Extended Depth of Focus. Optometry and Vision Science, 2012, 89, 1702-1707.	0.6	25
48	Close-loop adaptive optics using a single spatial light modulator. , 2011, , .		0
49	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
50	Strehl ratios characterizing optical elements designed for presbyopia compensation. Optics Express, 2011, 19, 8693.	1.7	29
51	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
52	Closed-loop adaptive optics with a single element for wavefront sensing and correction. Optics Letters, 2011, 36, 3702.	1.7	13
53	Centroid propagation through optical systems with ABCD kernels and non-uniform or finite apertures. , 2011, , .		0
54	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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55	Metaadaptive optics. , 2011, , .		0
56	Closed-loop adaptive optics with a single Spatial Light Modulator. , 2011, , .		1
57	Dynamic wavefront sensing and correction with low-cost twisted nematic spatial light modulators. Journal of Physics: Conference Series, 2010, 206, 012018.	0.3	2
58	Pupil tracking with a Hartmann-Shack wavefront sensor. Journal of Biomedical Optics, 2010, 15, 036022.	1.4	9
59	Green Laser Pointers for Visual Astronomy: How Much Power Is Enough?. Optometry and Vision Science, 2010, 87, 140-144.	0.6	2
60	Reconfigurable Shackâ€"Hartmann sensor without moving elements. Optics Letters, 2010, 35, 1338.	1.7	13
61	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
62	Dynamic Wavefront Sensing and Correction with Low-Cost Twisted Nematic Spatial Light Modulators. , 2010, , 63-76.		1
63	Changes of ocular aberrations with gaze. Ophthalmic and Physiological Optics, 2009, 29, 264-271.	1.0	10
64	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
65	Equivalence of least-squares estimation of eye aberrations in linearly transformed reference frames. Optics Communications, 2008, 281, 2716-2721.	1.0	6
66	Imaging with extended focal depth by means of the refractive light sword optical element. Optics Express, 2008, 16, 18371.	1.7	32
67	Achromatic imaging by means of the refractive light sword optical element. Proceedings of SPIE, 2008, , .	0.8	0
68	Presbyopia compensation with a light sword optical element. , 2008, , .		0
69	LOW-COST SPATIAL LIGHT MODULATORS FOR OPHTHALMIC APPLICATIONS â€" Poster Paper. , 2008, , .		0
70	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
71	Application of an optimized low-cost spatial light modulator for efficient compensation of eye aberration patterns. , 2007, , .		0
72	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

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73	Measurement and compensation of optical aberrations using a single spatial light modulator. Optics Express, 2007, 15, 15287.	1.7	37
74	Translational and rotational pupil tracking by use of wavefront aberration data and image registration techniques. Optics Letters, 2006, 31, 1642.	1.7	4
75	Estimation-induced correlations of the Zernike coefficients of the eye aberration. Optics Letters, 2006, 31, 2646.	1.7	11
76	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
77	A New Calibration Set of Phase Plates for Ocular Aberrometers. Journal of Refractive Surgery, 2006, 22, 275-284.	1.1	14
78	A new calibration set of phase plates for ocular aberrometers. Journal of Refractive Surgery, 2006, 22, 275-84.	1.1	0
79	Determining Longitude: A Brief History. Physics Today, 2005, 58, 15-16.	0.3	0
80	Presbyopia Compensation with a Quartic Axicon. Optometry and Vision Science, 2005, 82, 1071-1078.	0.6	52
81	Modulations of the visual N1 component of event-related potentials by central and peripheral cueing. Clinical Neurophysiology, 2005, 116, 807-820.	0.7	25
82	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
83	Equilateral hyperbolic moirï¿½ zone plates with variable focus obtained by rotations. Optics Express, 2005, 13, 918.	1.7	7
84	Sampling geometries for ocular aberrometry: A model for evaluation of performance. Optics Express, 2005, 13, 8801.	1.7	21
85	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
86	<title>Photolithography for the static compensation of human eye aberrations</title>. , 2004, , .		0
87	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
88	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
89	Hybrid technique for high resolution imaging of the eye fundus. Optics Express, 2003, 11, 761.	1.7	10
90	Contrast improvement of confocal retinal imaging by use of phase-correcting plates. Optics Letters, 2002, 27, 400.	1.7	57

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91	Calculation of minimum-variance estimators for Hartmann sensing using random wave vector simulations. Journal of Optics, 2001, 3, 120-125.	1.5	0
92	Position and displacement sensing with Shackâ€“Hartmann wave-front sensors. Applied Optics, 2000, 39, 1511.	2.1	45
93	Significance of the recovery filter in deconvolution from wavefront sensing. Optical Engineering, 2000, 39, 2789.	0.5	3
94	Positioning tolerances for phase plates compensating aberrations of the human eye. Applied Optics, 2000, 39, 3413.	2.1	84
95	Phase plates for wave-aberration compensation in the human eye. Optics Letters, 2000, 25, 236.	1.7	122
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	Minimum-variance phase reconstruction from Hartmann sensors with circular subpupils. Optics Communications, 1998, 148, 225-229.	1.0	13
99	Hartmann sensing of random phase fields with uncertain Fried parameter. Optics Communications, 1998, 152, 247-251.	1.0	3
100	Modal wavefront projectors of minimum error norm. Optics Communications, 1998, 155, 251-254.	1.0	7
101	Interferometric monitoring of surface shaping processes in microlenses produced by melting photoresist. Journal of Modern Optics, 1998, 45, 1029-1037.	0.6	6
102	Hartmann sensing with Albrecht grids. Optics Communications, 1997, 133, 443-453.	1.0	16
103	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
104	Modal phase estimation from wavefront curvature sensing. Optics Communications, 1996, 123, 453-456.	1.0	12
105	Determination of phase mode components in terms of local wave-front slopes: an analytical approach. Optics Letters, 1995, 20, 1083.	1.7	28
106	Analytic design of computer-generated holograms focusing in nonplanar curves. Optics Communications, 1993, 101, 306-310.	1.0	2
107	Nonparaxial design of generalized axicons. Applied Optics, 1992, 31, 5326.	2.1	123
108	Phase retardation of the uniform-intensity axilens. Optics Letters, 1992, 17, 7.	1.7	98

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109	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
110	Determination of basic grids for subtractive moire patterns. Applied Optics, 1991, 30, 1258.	2.1	13
111	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
112	Modulated Circular Zone Plates: Focusing in 2D Curves. Journal of Modern Optics, 1991, 38, 81-88.	0.6	2
113	Method for scaling the output focal curves formed by computer generated zone plates. Optics and Laser Technology, 1991, 23, 303-307.	2.2	3
114	Common-path interferometer using Fresnel zone plate with initial phase shift: metrological uses. , 1990, 1319, 321.		0
115	Computer-generated fourier transform holograms focusing in 2D curves. Optics Communications, 1990, 77, 360-364.	1.0	5
116	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
117	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
118	Interferometric alignment using parabolic and off-axis conical zone plates. Applied Optics, 1990, 29, 4614.	2.1	4
119	A Holographic Optical Element for Non-symmetric Fourier Transform Systems. Journal of Modern Optics, 1989, 36, 21-30.	0.6	8
120	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
121	Holographically Produced Parabolic Zone Plates. Optical Engineering, 1987, 26, 265461.	0.5	8
122	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
123	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