Salvador Bar

List of Publications by Citations

109 papers	1,382 citations	19 h-index	32 g-index
125 ext. papers	1,669 ext. citations	2.6 avg, IF	4.88 L-index

#	Paper	IF	Citations
109	Nonparaxial design of generalized axicons. *Applied Optics*, **1992**, 31, 5326-30	1.7	102
108	Phase plates for wave-aberration compensation in the human eye. *Optics Letters*, **2000**, 25, 236-8	3	99
107	Phase retardation of the uniform-intensity axilens. *Optics Letters*, **1992**, 17, 7-9	3	83
106	Positioning tolerances for phase plates compensating aberrations of the human eye. *Applied Optics*, **2000**, 39, 3413-20	1.7	75
105	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	4.3	50
104	Contrast improvement of confocal retinal imaging by use of phase-correcting plates. *Optics Letters*, **2002**, 27, 400-2	3	47
103	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, 2061-6	1.8	46
102	The Light Sword Optical Element: A New Diffraction Structure with Extended Depth of Focus. *Journal of Modern Optics*, **1990**, 37, 1283-1286	1.1	44
101	Presbyopia compensation with a quartic axicon. *Optometry and Vision Science*, **2005**, 82, 1071-8	2.1	40
100	Anthropogenic disruption of the night sky darkness in urban and rural areas. *Royal Society Open Science*, **2016**, 3, 160541	3.3	36
99	Position and displacement sensing with shack-hartmann wave-front sensors. *Applied Optics*, **2000**, 39, 1511-20	1.7	35
98	Measurement and compensation of optical aberrations using a single spatial light modulator. *Optics Express*, **2007**, 15, 15287-92	3.3	27
97	Estimating the relative contribution of streetlights, vehicles, and residential lighting to the urban night sky brightness. *Lighting Research and Technology*, **2019**, 51, 1092-1107	2	26
96	Modulations of the visual N1 component of event-related potentials by central and peripheral cueing. *Clinical Neurophysiology*, **2005**, 116, 807-20	4.3	24
95	Determination of phase mode components in terms of local wave-front slopes: an analytical approach. *Optics Letters*, **1995**, 20, 1083-5	3	23
94	Visual Strehl performance of IOL designs with extended depth of focus. *Optometry and Vision Science*, **2012**, 89, 1702-7	2.1	21
93	Imaging with extended focal depth by means of the refractive light sword optical element. *Optics Express*, **2008**, 16, 18371-8	3.3	21

92	Sampling geometries for ocular aberrometry: A model for evaluation of performance. *Optics Express*, **2005**, 13, 8801-18	3.3	20
91	Ground-based hyperspectral analysis of the urban nightscape. *ISPRS Journal of Photogrammetry and Remote Sensing*, **2017**, 124, 16-26	11.8	19
90	Strehl ratios characterizing optical elements designed for presbyopia compensation. *Optics Express*, **2011**, 19, 8693-9	3.3	19
89	Variable aberration generators using rotated Zernike plates. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2005**, 22, 1993-6	1.8	19
88	Absolute Radiometric Calibration of TESS-W and SQM Night Sky Brightness Sensors. *Sensors*, **2019**, 19,	3.8	18
87	Monitoring Long-Term Trends in the Anthropogenic Night Sky Brightness. *Sustainability*, **2019**, 11, 3070	3.6	17
86	Statistical modelling and satellite monitoring of upward light from public lighting. *Lighting Research and Technology*, **2016**, 48, 810-822	2	17
85	Light pollution offshore: Zenithal sky glow measurements in the mediterranean coastal waters. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2018**, 210, 91-100	2.1	15
84	Measuring eye aberrations with Hartmann-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, 2237-45	1.8	15
83	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, 1-10	1.8	13
82	Modulated On-axis Circular Zone Plates for a Generation of Three-dimensional Focal Curves. *Journal of Modern Optics*, **1990**, 37, 1287-1295	1.1	13
81	Imaging properties of the light sword optical element used as a contact lens in a presbyopic eye model. *Optics Express*, **2011**, 19, 25602-16	3.3	12
80	Hartmann sensing with Albrecht grids. *Optics Communications*, **1997**, 133, 443-453	2	12
79	Minimum-variance phase reconstruction from Hartmann sensors with circular subpupils. *Optics Communications*, **1998**, 148, 225-229	2	12
78	Modal phase estimation from wavefront curvature sensing. *Optics Communications*, **1996**, 123, 453-456	2	12
77	Magnitude to luminance conversions and visual brightness of the night sky. *Monthly Notices of the Royal Astronomical Society*, **2020**, 493, 2429-2437	4.3	12
76	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	4.3	12
75	Monitoring transition: Expected night sky brightness trends in different photometric bands. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2019**, 239, 106644	2.1	11

74	Estimation-induced correlations of the Zernike coefficients of the eye aberration. *Optics Letters*, **2006**, 31, 2646-8	3	11
73	Determination of basic grids for subtractive moire patterns. *Applied Optics*, **1991**, 30, 1258-62	1.7	11
72	A New Calibration Set of Phase Plates for Ocular Aberrometers. *Journal of Refractive Surgery*, **2006**, 22, 275-284	3.3	11
71	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	4.3	10
70	Zernike power spectra of clear and cloudy light-polluted urban night skies **2015**, 54, 4120		9
69	Closed-loop adaptive optics with a single element for wavefront sensing and correction. *Optics Letters*, **2011**, 36, 3702-4	3	9
68	Hybrid technique for high resolution imaging of the eye fundus. *Optics Express*, **2003**, 11, 761-6	3.3	9
67	Variations on a classical theme: On the formal relationship between magnitudes per square arcsecond and luminance. *International Journal of Sustainable Lighting*, **2017**, 19, 104	1.5	9
66	Photons without borders: quantifying light pollution transfer between territories. *International Journal of Sustainable Lighting*, **2018**, 20, 51-61	1.5	9
65	Evaluating Human Photoreceptoral Inputs from Night-Time Lights Using RGB Imaging Photometry. *Journal of Imaging*, **2019**, 5,	3.1	8
64	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	4.3	8
63	Zernike analysis of all-sky night brightness maps. *Applied Optics*, **2014**, 53, 2677-86	1.7	8
62	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	1.8	8
61	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	4.3	8
60	Contrast transfer characteristics of the light sword optical element designed for presbyopia compensations. *Journal of the European Optical Society-Rapid Publications*, **2011**, 6,	2.5	7
59	Changes of ocular aberrations with gaze. *Ophthalmic and Physiological Optics*, **2009**, 29, 264-71	4.1	7
58	The contribution of the fixational eye movements to the variability of the measured ocular aberration. *Ophthalmic and Physiological Optics*, **2009**, 29, 281-7	4.1	7
57	Integral evaluation of the modal phase coefficients in curvature sensing: Albrecht□ cubatures. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **1996**, 13, 1467	1.8	7

56	A linear systems approach to protect the night sky: implications for current and future regulations. *Royal Society Open Science*, **2020**, 7, 201501	3.3	7
55	Modal evaluation of the anthropogenic night sky brightness at arbitrary distances from a light source. *Journal of Optics (United Kingdom)*, **2015**, 17, 105607	1.7	6
54	Two-index model for characterizing site-specific night sky brightness patterns. *Monthly Notices of the Royal Astronomical Society*, **2019**, 490, 1953-1960	4.3	6
53	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, 114-23	1.8	6
52	Pupil tracking with a Hartmann-Shack wavefront sensor. *Journal of Biomedical Optics*, **2010**, 15, 036022	3.5	6
51	Equivalence of least-squares estimation of eye aberrations in linearly transformed reference frames. *Optics Communications*, **2008**, 281, 2716-2721	2	6
50	Equilateral hyperbolic moiré zone plates with variable focus obtained by rotations. *Optics Express*, **2005**, 13, 918-25	3.3	6
49	A Holographic Optical Element for Non-symmetric Fourier Transform Systems. *Journal of Modern Optics*, **1989**, 36, 21-30	1.1	6
48	Fast Fourier-transform calculation of artificial night sky brightness maps. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2020**, 240, 106658	2.1	6
47	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	2.1	5
46	Reconfigurable Shack-Hartmann sensor without moving elements. *Optics Letters*, **2010**, 35, 1338-40	3	5
45	Efficient compensation of Zernike modes and eye aberration patterns using low-cost spatial light modulators. *Journal of Biomedical Optics*, **2007**, 12, 014037	3.5	5
44	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, 3700-7	1.8	5
43	Computer-generated fourier transform holograms focusing in 2D curves. *Optics Communications*, **1990**, 77, 360-364	2	5
42	Holographically Produced Parabolic Zone Plates. *Optical Engineering*, **1987**, 26, 265461	1.1	5
41	Aerosol characterization using satellite remote sensing of light pollution sources at night. *Monthly Notices of the Royal Astronomical Society: Letters*, **2020**, 495, L76-L80	4.3	4
40	Signal-to-noise ratio and aberration statistics in ocular aberrometry. *Optics Letters*, **2012**, 37, 2427-9	3	4
39	Translational and rotational pupil tracking by use of wavefront aberration data and image registration techniques. *Optics Letters*, **2006**, 31, 1642-4	3	4

38	Interferometric monitoring of surface shaping processes in microlenses produced by melting photoresist. *Journal of Modern Optics*, **1998**, 45, 1029-1037	1.1	4
37	Computing light pollution indicators for environmental assessment. *Natural Sciences*, **2021**, 1, e10019		4
36	Centroid displacement statistics of the eye aberration. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2010**, 27, 1818-27	1.8	3
35	Finite-area centroid propagation in homogeneous media and range of validity of the Optical Ehrenfest's Theorem. *Optics Communications*, **2011**, 284, 2455-2459	2	3
34	Modal wavefront projectors of minimum error norm. *Optics Communications*, **1998**, 155, 251-254	2	3
33	Significance of the recovery filter in deconvolution from wavefront sensing. *Optical Engineering*, **2000**, 39, 2789	1.1	3
32	Method for scaling the output focal curves formed by computer generated zone plates. *Optics and Laser Technology*, **1991**, 23, 303-307	4.2	3
31	Interferometric alignment using parabolic and off-axis conical zone plates. *Applied Optics*, **1990**, 29, 4614-7	1.7	3
30	Black-body luminance and magnitudes per square arcsecond in the Johnson-Cousins BVR photometric bands. *Photonics Letters of Poland*, **2019**, 11, 63	2.1	3
29	Keeping light pollution at bay: A red-lines, target values, top-down approach. *Environmental Challenges*, **2021**, 5, 100212	2.6	3
28	Light pollution: Why should we care? **2014**,		2
27	Green laser pointers for visual astronomy: how much power is enough?. *Optometry and Vision Science*, **2010**, 87, 140-4	2.1	2
26	Hartmann sensing of random phase fields with uncertain Fried parameter. *Optics Communications*, **1998**, 152, 247-251	2	2
25	Modal projectors for linear operators in Optics. *Optics Communications*, **1999**, 162, 211-214	2	2
24	Efficiency of optimum Kolmogorov estimators for different atmospheric statistics: Hartmann test. *Optics Communications*, **1999**, 165, 163-170	2	2
23	Analytic design of computer-generated holograms focusing in nonplanar curves. *Optics Communications*, **1993**, 101, 306-310	2	2
22	Modulated Circular Zone Plates: Focusing in 2D Curves. *Journal of Modern Optics*, **1991**, 38, 81-88	1.1	2
21	Tilting and shearing determination in the alignment of a Mach-Zehnder interferometer by zone plates. *Optics and Laser Technology*, **1988**, 20, 89-94	4.2	2

20	Multispectral estimation of retinal photoreceptoral inputs. *Photonics Letters of Poland*, **2019**, 11, 60	2.1	2
19	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*,1-12	3.5	2
18	RGB photometric calibration of 15 million Gaia stars. *Monthly Notices of the Royal Astronomical Society*, **2021**, 507, 318-329	4.3	2
17	Research note: Calculating spectral irradiance indoors. *Lighting Research and Technology*, **2017**, 49, 122-127	2	1
16	Light pollution and solid-state lighting: reducing the carbon dioxide footprint is not enough **2013**,		1
15	Axial Displacement and Tilting Control of a Plane Surface Using a Circular Zone Plate. *Journal of Modern Optics*, **1991**, 38, 925-933	1.1	1
14	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	4.3	1
13	Night sky brightness simulation over Montsec protected area. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2020**, 249, 106990	2.1	1
12	Synthetic aperture wavefront sensing. *Optical Engineering*, **2013**, 53, 061703	1.1	0
11	Diffuse light around cities: New perspectives in satellite remote sensing of nighttime aerosols. *Atmospheric Research*, **2022**, 266, 105969	5.4	0
10	Dynamic Wavefront Sensing and Correction with Low-Cost Twisted Nematic Spatial Light Modulators **2010**, 63-76		0
9	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	4.3	0
8	Nighttime Atmospheric Scattering Phase Function Derived from the Scattered Light of a Laser Beam. *Geophysical Research Letters*,	4.9	0
7	Wavefront aberration statistics in normal eye populations: are they well described by the Kolmogorov model?. *Optics Letters*, **2014**, 39, 3197-200	3	
6	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	1.8	
5	Optics and Deconvolution: Wavefront Sensing **2011**, 549-569		
4	Dynamic wavefront sensing and correction with low-cost twisted nematic spatial light modulators. *Journal of Physics: Conference Series*, **2010**, 206, 012018	0.3	
3	Calculation of minimum-variance estimators for Hartmann sensing using random wave vector simulations. *Journal of Optics*, **2001**, 3, 120-125		

2 A new calibration set of phase plates for ocular aberrometers. *Journal of Refractive Surgery*, **2006**, 22, 275-84 3.3

1 Towards a global map of the artificial all-sky brightness. *Monthly Notices of the Royal Astronomical Society: Letters*, **2022**, 513, L25-L29 4.3