

# Emil Wolf

## List of Publications by Year in descending order

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138  
papers

9,151  
citations

57681

46  
h-index

45040

94  
g-index

138  
all docs

138  
docs citations

138  
times ranked

2328  
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectral changes of stochastic beams scattered on a deterministic medium. Optics Letters, 2012, 37, 2517.	1.7	25
2	Theory of refraction and reflection with partially coherent electromagnetic beams. Physical Review A, 2012, 86, .	1.0	12
3	Stokes beams formed by superposition of a completely unpolarized and a completely polarized Gaussian Schell-model beam. Optics Communications, 2012, 285, 4719-4726.	1.0	2
4	Quantum Theory of Optical Coherence in the Space-frequency Domain. , 2011, , .		0
5	Quantum analysis of polarization properties of optical beams. Physical Review A, 2010, 82, .	1.0	13
6	Quantum theory of optical coherence of nonstationary light in the space-frequency domain. Physical Review A, 2010, 82, .	1.0	6
7	Does a light beam of very narrow bandwidth always behave as a monochromatic beam?. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 997-1000.	0.9	6
8	Statistical similarity as a unifying concept of the theories of coherence and polarization of light. Optics Communications, 2010, 283, 4427-4429.	1.0	12
9	Relationship between Complete Coherence in the Space-Time and in the Space-Frequency Domains. Physical Review Letters, 2010, 105, 063901.	2.9	13
10	Theory of Optical Coherence in the Space-time and in the Space-frequency Domains. , 2010, , .		0
11	Some Applications of the Unified Theory of Coherence and Polarization of Light. , 2010, , .		0
12	An inverse problem in the theory of stochastic electromagnetic beams. Optics Communications, 2009, 282, 141-142.	1.0	4
13	Cross-spectral density matrices of polarized light beams. Optics Letters, 2009, 34, 557.	1.7	15
14	Solution of the Phase Problem in the Theory of Structure Determination of Crystals from X-Ray Diffraction Experiments. Physical Review Letters, 2009, 103, 075501.	2.9	42
15	Beam criteria for propagation of electromagnetic beams in the turbulent atmosphere. Optics Communications, 2008, 281, 948-952.	1.0	2
16	Spatial coherence properties of azimuthally polarized laser modes. Optics Communications, 2008, 281, 5287-5290.	1.0	14
17	Can a light beam be considered to be the sum of a completely polarized and a completely unpolarized beam?. Optics Letters, 2008, 33, 642.	1.7	35
18	Coherence-induced polarization changes in light beams. Optics Letters, 2008, 33, 1180.	1.7	46

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19	Intensity fluctuations and the degree of cross-polarization in stochastic electromagnetic beams. Journal of Optics, 2008, 10, 055001.	1.5	52
20	Coherence-Induced Polarization Changes in Stochastic Electromagnetic Beams. , 2008, , .		0
21	Spectral changes in electromagnetic stochastic beams propagating through turbulent atmosphere. Journal of Modern Optics, 2008, 55, 1199-1208.	0.6	25
22	Geometrical optics limit of stochastic electromagnetic fields. Physical Review A, 2008, 77, .	1.0	8
23	The degree of coherence of azimuthally polarized laser modes. , 2008, , .		0
24	Chapter 7 The influence of Young's interference experiment on the development of statistical optics. Progress in Optics, 2007, 50, 251-273.	0.4	8
25	Polarization invariance in beam propagation. Optics Letters, 2007, 32, 3400.	1.7	51
26	Application of correlation-induced spectral changes to inverse scattering. Optics Letters, 2007, 32, 3483.	1.7	92
27	Polarization-induced spectral changes on propagation of stochastic electromagnetic beams. Physical Review E, 2007, 75, 056610.	0.8	31
28	Correlations between intensity fluctuations in stochastic electromagnetic beams of any state of coherence and polarization. Optics Communications, 2007, 272, 289-292.	1.0	64
29	Correlation between Intensity Fluctuations in a Stochastic Electromagnetic Beam and the Degree of Cross-polarization. , 2007, , .		0
30	Unified Theory of Coherence and Polarization and Some of Its Applications. , 2007, , .		0
31	Propagation of the electric correlation matrix and the van Cittert-Zernike theorem for random electromagnetic fields. Journal of Modern Optics, 2006, 53, 969-978.	0.6	27
32	Polarization of completely coherent random electromagnetic beams. Optics Letters, 2006, 31, 146.	1.7	10
33	Effects of coherence on the degree of polarization in a Young interference pattern. Optics Letters, 2006, 31, 688.	1.7	62
34	Invariance and noninvariance of the spectra of stochastic electromagnetic beams on propagation. Optics Letters, 2006, 31, 2097.	1.7	58
35	Changes in the spectrum, in the spectral degree of polarization, and in the spectral degree of coherence of a partially coherent beam propagating through a gradient-index fiber. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 940.	0.8	79
36	A scalar-mode representation of stochastic, planar, electromagnetic sources. Optics Communications, 2006, 261, 19-22.	1.0	16

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37	Coherence and polarization properties of electromagnetic laser modes. Optics Communications, 2006, 265, 60-62.	1.0	22
38	Spectra, coherence and polarization in Young's interference pattern formed by stochastic electromagnetic beams. Optics Communications, 2006, 265, 63-72.	1.0	33
39	Invariance and non-invariance of the spectra of stochastic electromagnetic beams on propagation. , 2006, , .		0
40	Coherence and Polarization Properties of Electromagnetic Laser Modes. , 2006, , .		0
41	Young's interference experiment with light of any state of coherence and of polarization. Optics Communications, 2005, 252, 268-274.	1.0	41
42	Changes in the state of polarization of a random electromagnetic beam on propagation. Optics Communications, 2005, 246, 35-43.	1.0	234
43	Effects of linear non-image-forming devices on spectra and on coherence and polarization properties of stochastic electromagnetic beams: part II: examples. Journal of Modern Optics, 2005, 52, 2673-2685.	0.6	13
44	Effects of linear non-image-forming devices on spectra and on coherence and polarization properties of stochastic electromagnetic beams: part I: general theory. Journal of Modern Optics, 2005, 52, 2659-2671.	0.6	26
45	A method of generating electromagnetic Gaussian Schell-model beams. Journal of Optics, 2005, 7, 232-237.	1.5	121
46	Change in the polarization of partially coherent electromagnetic beams propagating through the turbulent atmosphere. Journal of Modern Optics, 2005, 52, 1611-1618.	0.6	116
47	Coherence and polarization properties of far fields generated by quasi-homogeneous planar electromagnetic sources. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2005, 22, 2547.	0.8	51
48	Generalized Stokes parameters of random electromagnetic beams. Optics Letters, 2005, 30, 198.	1.7	222
49	The effect of a moving diffuser on a random electromagnetic beam. Journal of Modern Optics, 2005, 52, 791-796.	0.6	3
50	Realizability conditions and synthesis of electromagnetic Gaussian Schell-model sources. , 2005, , .		0
51	Generalized Jones-Mueller polarization calculus. , 2005, , .		0
52	Coherence and polarization properties of far-fields generated by quasi-homogeneous electromagnetic sources. , 2005, , .		0
53	An interference law for electromagnetic beams of any state of coherence and polarization. , 2004, , FTuG15.		0
54	Coherence effects in the near-field. Journal of Modern Optics, 2004, 51, 1603-1612.	0.6	3

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55	The far-zone behavior of the degree of polarization of electromagnetic beams propagating through atmospheric turbulence. Optics Communications, 2004, 233, 225-230.	1.0	198
56	Invariance of spectrum of light generated by a class of quasi-homogenous sources on propagation through turbulence. Optics Communications, 2004, 241, 11-15.	1.0	37
57	Comment on a paper "Radiation from arbitrarily polarized spatially incoherent source"™. Optics Communications, 2004, 242, 321-322.	1.0	4
58	Polarization of a spatially fully coherent electromagnetic beam. Journal of Modern Optics, 2004, 51, 757-759.	0.6	6
59	Polarization changes in partially coherent electromagnetic beams propagating through turbulent atmosphere. Waves in Random and Complex Media, 2004, 14, 513-523.	1.5	133
60	Coherence and polarization of electromagnetic beams modulated by random phase screens and their changes on propagation in free space. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 1907.	0.8	77
61	Spectral degree of coherence of a random three-dimensional electromagnetic field. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 2382.	0.8	50
62	A law of interference of electromagnetic beams of any state of coherence and polarization and the Fresnel"Arago interference laws. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 2414.	0.8	54
63	Beam conditions for radiation generated by an electromagnetic Gaussian Schell-model source. Optics Letters, 2004, 29, 1173.	1.7	122
64	Comment on "Complete electromagnetic coherence in the space"frequency domain". Optics Letters, 2004, 29, 1712.	1.7	20
65	Spectral invariance on propagation. , 2004, , .		0
66	Control of spatial coherence and associated polarization changes by the use of liquid-crystal spatial light modulators. , 2004, , .		0
67	Determination of the electric cross-spectral density matrix of a random electromagnetic beam. Optics Communications, 2003, 226, 57-60.	1.0	69
68	The spectral degree of coherence of fully spatially coherent electromagnetic beams. Optics Communications, 2003, 227, 73-74.	1.0	24
69	Spectral invariance in fields generated by quasi-homogeneous scaling law sources. Optics Communications, 2003, 215, 199-203.	1.0	10
70	Unified theory of coherence and polarization of random electromagnetic beams. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 312, 263-267.	0.9	769
71	Coherence theory of pairs of correlated wave fields. Journal of Modern Optics, 2003, 50, 1791-1796.	0.6	16
72	Significance and measurability of the phase of a spatially coherent optical field. Optics Letters, 2003, 28, 5.	1.7	36

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73	Effects of spatial coherence on near-field spectra. Optics Letters, 2003, 28, 170.	1.7	26
74	Correlation-induced changes in the degree of polarization, the degree of coherence, and the spectrum of random electromagnetic beams on propagation. Optics Letters, 2003, 28, 1078.	1.7	183
75	Optimum depth of the information pit on the data surface of a compact disk. Journal of Modern Optics, 2003, 50, 199-206.	0.6	10
76	Solution to the inverse scattering problem for strongly fluctuating media using partially coherent light. Optics Letters, 2002, 27, 1770.	1.7	17
77	The rayleigh range of gaussian schell-model beams. Journal of Modern Optics, 2001, 48, 1735-1741.	0.6	37
78	Transformation of coherence and of the spectrum of light by a moving diffuser. Journal of Modern Optics, 2001, 48, 717-727.	0.6	10
79	Coherence of two interfering beams modulated by a uniformly moving diffuser. Journal of Modern Optics, 2000, 47, 1569-1573.	0.6	9
80	Propagation-induced polarization changes in partially coherent optical beams. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2000, 17, 2019.	0.8	114
81	Energy conservation law for randomly fluctuating electromagnetic fields. Physical Review E, 1999, 59, 4594-4599.	0.8	16
82	Determination of the degree of coherence of light from spectroscopic measurements. Optics Communications, 1998, 145, 1-4.	1.0	29
83	Spectral changes produced by static scattering on a system of particles. Optics Letters, 1998, 23, 1340.	1.7	104
84	Nonpropagating string excitations. American Journal of Physics, 1998, 66, 121-123.	0.3	64
85	Coherence filters and their uses II. One-dimensional realizations. Journal of Modern Optics, 1998, 45, 799-816.	0.6	27
86	Coherence filters and their uses. I. Basic theory and examples. Journal of Modern Optics, 1997, 44, 1345-1353.	0.6	20
87	Far-zone spectral isotropy in weak scattering on spatially random media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1997, 14, 2820.	0.8	22
88	Theory of diffraction tomography for quasi-homogeneous random objects. Optics Communications, 1997, 133, 17-21.	1.0	44
89	Cross-spectrally pure light and the spectral modulation law. Optics Communications, 1997, 138, 257-261.	1.0	13
90	Sudarshan's Optical Researches. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1997, 52, 2-2.	0.7	0

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91	Correlation-induced spectral changes. Reports on Progress in Physics, 1996, 59, 771-818.	8.1	211
92	Principles and development of diffraction tomography. , 1996, , 83-110.		24
93	Correlation-induced spectral changes and energy conservation. Physical Review A, 1996, 54, 4424-4427.	1.0	8
94	Sources which generate fields whose spectra are invariant on propagation. Optics Communications, 1995, 119, 447-452.	1.0	5
95	Far-zone behavior of focused fields in systems with different Fresnel numbers. Optics Communications, 1995, 119, 453-459.	1.0	31
96	Coherence Effects in Radiometry and Spectroscopy. Optical Review, 1995, 2, 13-13.	1.2	0
97	Invariance properties of random pulses and of other random fields in dispersive media. Physical Review E, 1995, 52, 5532-5539.	0.8	3
98	Radiometry with Quasihomogeneous Sources. Journal of Modern Optics, 1995, 42, 787-798.	0.6	15
99	Structure of focused fields in systems with large Fresnel numbers. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1995, 12, 1947.	0.8	26
100	Reconstruction of Scattering Potentials from Incomplete Data. Journal of Modern Optics, 1994, 41, 1679-1685.	0.6	23
101	Inverse problems with quasi-homogeneous random media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1994, 11, 1128.	0.8	75
102	Invisible Bodies and Uniqueness of the Inverse Scattering Problem. Journal of Modern Optics, 1993, 40, 785-792.	0.6	74
103	Higher-order Coherence Functions in the Space-frequency Domain. Journal of Modern Optics, 1993, 40, 1489-1496.	0.6	13
104	Towards Spectroscopy of Partially Coherent Sources. , 1993, , 369-382.		4
105	Propagation of Gaussian Schell-model Beams in Dispersive and Absorbing Media. Journal of Modern Optics, 1992, 39, 2007-2021.	0.6	15
106	Energy Conservation with Partially Coherent Sources Which Induce Spectral Changes in Emitted Radiation. Journal of Modern Optics, 1992, 39, 927-940.	0.6	16
107	Determination of field correlations from spectral measurements with application to synthetic aperture imaging. Radio Science, 1991, 26, 1239-1243.	0.8	30
108	Some new aspects of Young's interference experiment. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 157, 6-10.	0.9	79

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109	Spectral changes produced in Young's interference experiment. Optics Communications, 1991, 81, 150-154.	1.0	78
110	Radiance Functions of Partially Coherent Fields. Journal of Modern Optics, 1991, 38, 2053-2068.	0.6	17
111	Influence of Source Correlations on Spectra of Radiated Fields. , 1991, , 221-232.		9
112	Energy conservation with partially coherent sources which generate frequency shifts of spectral lines. , 1990, , .		0
113	Doppler-like frequency shifts generated by dynamic scattering. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 146, 167-171.	0.9	52
114	On the Possibility of Generating Doppler-Like Frequency Shifts of Spectral Lines by Scattering from Space-Time Fluctuations. , 1990, , 1235-1238.		0
115	Correlation-induced Doppler-type frequency shifts of spectral lines. Physical Review Letters, 1989, 63, 2220-2223.	2.9	75
116	Frequency shifts of spectral lines generated by scattering from space-time fluctuations. Physical Review A, 1989, 40, 588-598.	1.0	59
117	A spectral equivalence theorem. Optics Communications, 1989, 72, 1-6.	1.0	9
118	Spectral modulation by control of source correlations. Optics Communications, 1988, 65, 91-96.	1.0	41
119	Changes in the spectrum of a partially coherent light beam propagating in free space. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1988, 5, 1118.	0.8	78
120	Partially coherent sources that generate the same far-field spectra as completely incoherent sources. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1988, 5, 1683.	0.8	12
121	Far-zone behavior of electromagnetic fields generated by fluctuating current distributions. Physical Review A, 1987, 36, 1258-1269.	1.0	28
122	Red shifts and blue shifts of spectral lines emitted by two correlated sources. Physical Review Letters, 1987, 58, 2646-2648.	2.9	124
123	Redshifts and blueshifts of spectral lines caused by source correlations. Optics Communications, 1987, 62, 12-16.	1.0	111
124	Non-cosmological redshifts of spectral lines. Nature, 1987, 326, 363-365.	18.7	252
125	Invariance of the Spectrum of Light on Propagation. Physical Review Letters, 1986, 56, 1370-1372.	2.9	360
126	On the physical contents of some integral equations for inverse scattering from inhomogeneous objects. Radio Science, 1986, 21, 627-634.	0.8	6



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127	Analyticity of the angular spectrum amplitude of scattered fields and some of its consequences. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1985, 2, 886.	0.8	98
128	Three-dimensional intensity distribution near the focus in systems of different Fresnel numbers. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1984, 1, 801.	0.8	184
129	New theory of partial coherence in the space-frequency domain Part I: spectra and cross spectra of steady-state sources. Journal of the Optical Society of America, 1982, 72, 343.	1.2	553
130	Focal shift in focused truncated gaussian beams. Optics Communications, 1982, 42, 151-156.	1.0	161
131	Conditions for the validity of the Debye integral representation of focused fields. Optics Communications, 1981, 39, 205-210.	1.0	155
132	Focal shifts in diffracted converging spherical waves. Optics Communications, 1981, 39, 211-215.	1.0	329
133	Coherence and radiometry*. Journal of the Optical Society of America, 1978, 68, 6.	1.2	294
134	Research Frontier. Physics Teacher, 1971, 9, 207-210.	0.2	4
135	Determination of the Amplitude and the Phase of Scattered Fields by Holography*. Journal of the Optical Society of America, 1970, 60, 18.	1.2	88
136	Three-dimensional structure determination of semi-transparent objects from holographic data. Optics Communications, 1969, 1, 153-156.	1.0	1,230
137	The rayleigh range of gaussian schell-model beams. , 0, .		1
138	Coherence filters and their uses II. One-dimensional realizations. , 0, .		6