Emil Wolf

List of Publications by Year
in descending order

138 papers	9,151 citations	50273 46 h-index	39667 94 g-index
138 all docs	138 docs citations	138 times ranked	2024 citing authors

#	Article	IF	Citations
1	Spectral changes of stochastic beams scattered on a deterministic medium. Optics Letters, 2012, 37, 2517.	3.3	25
2	Theory of refraction and reflection with partially coherent electromagnetic beams. Physical Review A, 2012, 86, .	2.5	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.	2.1	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, .	2.5	13
6	Quantum theory of optical coherence of nonstationary light in the space-frequency domain. Physical Review A, 2010, 82, .	2.5	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.	2.1	6
8	Statistical similarity as a unifying concept of the theories of coherence and polarization of light. Optics Communications, 2010, 283, 4427-4429.	2.1	12
9	Relationship between Complete Coherence in the Space-Time and in the Space-Frequency Domains. Physical Review Letters, 2010, 105, 063901.	7.8	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.	2.1	4
13	Cross-spectral density matrices of polarized light beams. Optics Letters, 2009, 34, 557.	3.3	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.	7.8	42
15	Beam criteria for propagation of electromagnetic beams in the turbulent atmosphere. Optics Communications, 2008, 281, 948-952.	2.1	2
16	Spatial coherence properties of azimuthally polarized laser modes. Optics Communications, 2008, 281, 5287-5290.	2.1	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.	3.3	35
18	Coherence-induced polarization changes in light beams. Optics Letters, 2008, 33, 1180.	3.3	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.	1.3	25
22	Geometrical optics limit of stochastic electromagnetic fields. Physical Review A, 2008, 77, .	2.5	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.	0.6	8
25	Polarization invariance in beam propagation. Optics Letters, 2007, 32, 3400.	3.3	51
26	Application of correlation-induced spectral changes to inverse scattering. Optics Letters, 2007, 32, 3483.	3.3	92
27	Polarization-induced spectral changes on propagation of stochastic electromagnetic beams. Physical Review E, 2007, 75, 056610.	2.1	31
28	Correlations between intensity fluctuations in stochastic electromagnetic beams of any state of coherence and polarization. Optics Communications, 2007, 272, 289-292.	2.1	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 Cittertâ€“Zernike theorem for random electromagnetic fields. Journal of Modern Optics, 2006, 53, 969-978.	1.3	27
32	Polarization of completely coherent random electromagnetic beams. Optics Letters, 2006, 31, 146.	3.3	10
33	Effects of coherence on the degree of polarization in a Young interference pattern. Optics Letters, 2006, 31, 688.	3.3	62
34	Invariance and noninvariance of the spectra of stochastic electromagnetic beams on propogation. Optics Letters, 2006, 31, 2097.	3.3	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.	1.5	79
36	A scalar-mode representation of stochastic, planar, electromagnetic sources. Optics Communications, 2006, 261, 19-22.	2.1	16

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37	Coherence and polarization properties of electromagnetic laser modes. Optics Communications, 2006, 265, 60-62.	2.1	22
38	Spectra, coherence and polarization in Youngâ€™s interference pattern formed by stochastic electromagnetic beams. Optics Communications, 2006, 265, 63-72.	2.1	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	Youngâ€™s interference experiment with light of any state of coherence and of polarization. Optics Communications, 2005, 252, 268-274.	2.1	41
42	Changes in the state of polarization of a random electromagnetic beam on propagation. Optics Communications, 2005, 246, 35-43.	2.1	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.	1.3	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.	1.3	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.	1.3	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.	1.5	51
48	Generalized Stokes parameters of random electromagnetic beams. Optics Letters, 2005, 30, 198.	3.3	222
49	The effect of a moving diffuser on a random electromagnetic beam. Journal of Modern Optics, 2005, 52, 791-796.	1.3	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.	1.3	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.	2.1	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.	2.1	37
57	Comment on a paper â€˜Radiation from arbitrarily polarized spatially incoherent sourceâ€™. Optics Communications, 2004, 242, 321-322.	2.1	4
58	Polarization of a spatially fully coherent electromagnetic beam. Journal of Modern Optics, 2004, 51, 757-759.	1.3	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.	1.5	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.	1.5	50
62	A law of interference of electromagnetic beams of any state of coherence and polarization and the Fresnelâ€“Arago interference laws. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 2414.	1.5	54
63	Beam conditions for radiation generated by an electromagnetic Gaussian Schell-model source. Optics Letters, 2004, 29, 1173.	3.3	122
64	Comment on â€œComplete electromagnetic coherence in the spaceâ€“frequency domainâ€• Optics Letters, 2004, 29, 1712.	3.3	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.	2.1	69
68	The spectral degree of coherence of fully spatially coherent electromagnetic beams. Optics Communications, 2003, 227, 73-74.	2.1	24
69	Spectral invariance in fields generated by quasi-homogeneous scaling law sources. Optics Communications, 2003, 215, 199-203.	2.1	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.	2.1	769
71	Coherence theory of pairs of correlated wave fields. Journal of Modern Optics, 2003, 50, 1791-1796.	1.3	16
72	Significance and measurability of the phase of a spatially coherent optical field. Optics Letters, 2003, 28, 5.	3.3	36

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73	Effects of spatial coherence on near-field spectra. Optics Letters, 2003, 28, 170.	3.3	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.	3.3	183
75	Optimum depth of the information pit on the data surface of a compact disk. Journal of Modern Optics, 2003, 50, 199-206.	1.3	10
76	Solution to the inverse scattering problem for strongly fluctuating media using partially coherent light. Optics Letters, 2002, 27, 1770.	3.3	17
77	The rayleigh range of gaussian schell-model beams. Journal of Modern Optics, 2001, 48, 1735-1741.	1.3	37
78	Transformation of coherence and of the spectrum of light by a moving diffuser. Journal of Modern Optics, 2001, 48, 717-727.	1.3	10
79	The Rayleigh range of Gaussian Schell-model beams. Journal of Modern Optics, 2001, 48, 1735-1741.	1.3	1
80	Coherence of two interfering beams modulated by a uniformly moving diffuser. Journal of Modern Optics, 2000, 47, 1569-1573.	1.3	9
81	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.	1.5	114
82	Energy conservation law for randomly fluctuating electromagnetic fields. Physical Review E, 1999, 59, 4594-4599.	2.1	16
83	Determination of the degree of coherence of light from spectroscopic measurements. Optics Communications, 1998, 145, 1-4.	2.1	29
84	Spectral changes produced by static scattering on a system of particles. Optics Letters, 1998, 23, 1340.	3.3	104
85	Nonpropagating string excitations. American Journal of Physics, 1998, 66, 121-123.	0.7	64
86	Coherence filters and their uses II. One-dimensional realizations. Journal of Modern Optics, 1998, 45, 799-816.	1.3	27
87	Coherence filters and their uses II. One-dimensional realizations. Journal of Modern Optics, 1998, 45, 799-816.	1.3	6
88	Coherence filters and their uses. I. Basic theory and examples. Journal of Modern Optics, 1997, 44, 1345-1353.	1.3	20
89	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.	1.5	22
90	Theory of diffraction tomography for quasi-homogeneous random objects. Optics Communications, 1997, 133, 17-21.	2.1	44

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91	Cross-spectrally pure light and the spectral modulation law. Optics Communications, 1997, 138, 257-261.	2.1	13
92	Sudarshan's Optical Researches. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1997, 52, 2-2.	1.5	0
93	Correlation-induced spectral changes. Reports on Progress in Physics, 1996, 59, 771-818.	20.1	211
94	Principles and development of diffraction tomography. , 1996, , 83-110.		24
95	Correlation-induced spectral changes and energy conservation. Physical Review A, 1996, 54, 4424-4427.	2.5	8
96	Sources which generate fields whose spectra are invariant on propagation. Optics Communications, 1995, 119, 447-452.	2.1	5
97	Far-zone behavior of focused fields in systems with different Fresnel numbers. Optics Communications, 1995, 119, 453-459.	2.1	31
98	Coherence Effects in Radiometry and Spectroscopy. Optical Review, 1995, 2, 13-13.	2.0	0
99	Invariance properties of random pulses and of other random fields in dispersive media. Physical Review E, 1995, 52, 5532-5539.	2.1	3
100	Radiometry with Quasihomogeneous Sources. Journal of Modern Optics, 1995, 42, 787-798.	1.3	15
101	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.	1.5	26
102	Reconstruction of Scattering Potentials from Incomplete Data. Journal of Modern Optics, 1994, 41, 1679-1685.	1.3	23
103	Inverse problems with quasi-homogeneous random media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1994, 11, 1128.	1.5	75
104	Invisible Bodies and Uniqueness of the Inverse Scattering Problem. Journal of Modern Optics, 1993, 40, 785-792.	1.3	74
105	Higher-order Coherence Functions in the Space-frequency Domain. Journal of Modern Optics, 1993, 40, 1489-1496.	1.3	13
106	Towards Spectroscopy of Partially Coherent Sources. , 1993, , 369-382.		4
107	Propagation of Gaussian Schell-model Beams in Dispersive and Absorbing Media. Journal of Modern Optics, 1992, 39, 2007-2021.	1.3	15
108	Energy Conservation with Partially Coherent Sources Which Induce Spectral Changes in Emitted Radiation. Journal of Modern Optics, 1992, 39, 927-940.	1.3	16

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109	Determination of field correlations from spectral measurements with application to synthetic aperture imaging. Radio Science, 1991, 26, 1239-1243.	1.6	30
110	Some new aspects of Young's interference experiment. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 157, 6-10.	2.1	79
111	Spectral changes produced in Young's interference experiment. Optics Communications, 1991, 81, 150-154.	2.1	78
112	Radiance Functions of Partially Coherent Fields. Journal of Modern Optics, 1991, 38, 2053-2068.	1.3	17
113	Influence of Source Correlations on Spectra of Radiated Fields. , 1991, , 221-232.		9
114	Energy conservation with partially coherent sources which generate frequency shifts of spectral lines. , 1990, , .		0
115	Doppler-like frequency shifts generated by dynamic scattering. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 146, 167-171.	2.1	52
116	On the Possibility of Generating Doppler-Like Frequency Shifts of Spectral Lines by Scattering from Space-Time Fluctuations. , 1990, , 1235-1238.		0
117	Correlation-induced Doppler-type frequency shifts of spectral lines. Physical Review Letters, 1989, 63, 2220-2223.	7.8	75
118	Frequency shifts of spectral lines generated by scattering from space-time fluctuations. Physical Review A, 1989, 40, 588-598.	2.5	59
119	A spectral equivalence theorem. Optics Communications, 1989, 72, 1-6.	2.1	9
120	Spectral modulation by control of source correlations. Optics Communications, 1988, 65, 91-96.	2.1	41
121	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.	1.5	78
122	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.	1.5	12
123	Far-zone behavior of electromagnetic fields generated by fluctuating current distributions. Physical Review A, 1987, 36, 1258-1269.	2.5	28
124	Red shifts and blue shifts of spectral lines emitted by two correlated sources. Physical Review Letters, 1987, 58, 2646-2648.	7.8	124
125	Redshifts and blueshifts of spectral lines caused by source correlations. Optics Communications, 1987, 62, 12-16.	2.1	111
126	Non-cosmological redshifts of spectral lines. Nature, 1987, 326, 363-365.	27.8	252

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127	Invariance of the Spectrum of Light on Propagation. Physical Review Letters, 1986, 56, 1370-1372.	7.8	360
128	On the physical contents of some integral equations for inverse scattering from inhomogeneous objects. Radio Science, 1986, 21, 627-634.	1.6	6
129	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.	1.5	98
130	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.	1.5	184
131	New theory of partial coherence in the spaceâ€“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
132	Focal shift in focused truncated gaussian beams. Optics Communications, 1982, 42, 151-156.	2.1	161
133	Conditions for the validity of the Debye integral representation of focused fields. Optics Communications, 1981, 39, 205-210.	2.1	155
134	Focal shifts in diffracted converging spherical waves. Optics Communications, 1981, 39, 211-215.	2.1	329
135	Coherence and radiometry*. Journal of the Optical Society of America, 1978, 68, 6.	1.2	294
136	Research Frontier. Physics Teacher, 1971, 9, 207-210.	0.3	4
137	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
138	Three-dimensional structure determination of semi-transparent objects from holographic data. Optics Communications, 1969, 1, 153-156.	2.1	1,230