

## JQE Most Downloaded Articles of Each Year

As part of our commemoration of the 50th anniversary of the founding of the journal, we present this list of the most downloaded article from each year's publication. The list spans the years between 1965 and 2014. Download counts are equal to the total number of IEEE Xplore full article PDF downloads since tracking began in January 2011 through December 2014.

Rank	No. of Downloads	Year Published	Article Title	Author(s)
1	156	1965	Stabilized, single-frequency output from a long laser cavity	Smith, P.W.
2	592	1966	Resonant optical second harmonic generation and mixing	Ashkin, A.; Boyd, G.D.; Dziedzic, J.
3	219	1967	Acoustic diffraction of light in anisotropic media	Dixon, R.W.
4	242	1968	Temperature dependence of emission efficiency and lasing threshold in laser diodes	Pankove, Jacques I.
5	2,768	1969	Optical pulse compression with diffraction gratings	Treacy, E.
6	647	1970	FM and AM mode locking of the homogeneous laser—Part I: Theory	Kuizenga, Dirk J.; Siegman, A.E.
7	295	1971	Radiative transition probabilities within the $4f^3$ ground configuration of Nd:YAG	Krupke, William F.
8	821	1972	Astigmatically compensated cavities for CW dye lasers	Kogelnik, H.; Ippen, E.P.; Dienes, Andrew; Shank, C.V.
9	3,875	1973	Coupled-mode theory for guided-wave optics	Yariv, A.
10	1,309	1974	Principles of distributed feedback and distributed Bragg-reflector lasers	Wang, Shyh
11	1,778	1975	Analysis of curved optical waveguides by conformal transformation	Heiblum, M.; Harris, J.
12	501	1976	Switched directional couplers with alternating $\Delta B$	Kogelnik, H.; Schmidt, R.V.
13	595	1977	Coupled wave analysis of DFB and DBR lasers	Streifer, William; Scifres, D.R.; Burnham, R.
14	353	1978	Empirical relationships for predicting nonlinear refractive index changes in optical solids	Boling, N.; Glass, A.; Owyong, Adelbert
15	926	1979	Optical parametric oscillator threshold and linewidth studies	Brosnan, S.; Byer, R.L.
16	2,926	1980	External optical feedback effects on semiconductor injection laser properties	Lang, R.; Kobayashi, K.
17	1,354	1981	Polarization in optical fibers	Kaminow, I.
18	4,716	1982	Theory of the linewidth of semiconductor lasers	Henry, C.H.
19	830	1983	Theory of the phase noise and power spectrum of a single mode injection laser	Henry, C.H.
20	872	1984	The thermal response of laser irradiated tissue	Welch, A.J.
21	930	1985	Locking conditions and stability properties for a semiconductor laser with external light injection	Mogensen, F.; Olesen, H.; Jacobsen, G.
22	1,274	1986	Linewidth determination from self-heterodyne measurements with subcoherence delay times	Richter, L.; Mandelberg, H.I.; Kruger, M.; McGrath, P.
23	5,744	1987	Electrooptical effects in silicon	Soref, Richard A.; Bennett, B.R.
24	1,225	1988	Generation of ultrahigh peak power pulses by chirped pulse amplification	Maine, P.; Strickland, D.; Bado, P.; Pessot, M.; Mourou, G.
25	1,801	1989	Self-phase modulation and spectral broadening of optical pulses in semiconductor laser amplifiers	Agrawal, G.P.; Olsson, N.A.
26	3,931	1990	A review of the optical properties of biological tissues	Cheong, W.-F.; Prah, S.A.; Welch, A.J.
27	1,454	1991	Large single-mode rib waveguides in GeSi-Si and Si-on-SiO <sub>2</sub>	Soref, Richard A.; Schmidtchen, J.; Petermann, K.
28	2,459	1992	Quasi-phase-matched second harmonic generation: tuning and tolerances	Fejer, M.M.; Magel, G.A.; Jundt, Dieter H.; Byer, R.L.
29	1,527	1993	Evaluation of absorption and emission properties of Yb <sup>3+</sup> doped crystals for laser applications	DeLoach, Laura D.; Payne, S.A.; Chase, L.L.; Smith, Larry K.; Kway, Wayne L.; Krupke, William F.
30	1,273	1994	Analytical model for rare-earth-doped fiber amplifiers and lasers	Barnard, C.; Myslinski, P.; Chrostowski, J.; Kavehrad, M.

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31	1,096	1995	Optimization of passively Q-switched lasers	Degnan, J.J.
32	996	1996	Optoelectronic oscillator for photonic systems	Yao, X.S.; Maleki, L.
33	3,128	1997	Laser ablation and micromachining with ultrashort laser pulses	Liu, X.; Du, D.; Mourou, G.
34	821	1998	Resonant tunneling in quantum cascade lasers	Sirtori, Carlo; Capasso, F.; Faist, Jerome; Hutchinson, A.L.; Sivco, Deborah L.; Cho, Alfred Y.
35	1,276	1999	Laser-induced plasma formation in water at nanosecond to femtosecond time scales: calculation of thresholds, absorption coefficients, and energy density	Noack, J.; Vogel, A.
36	990	2000	Surface plasmon enhanced light-emitting diode	Vuckovic, J.; Loncar, M.; Scherer, Axel
37	1,214	2001	Thermal, stress, and thermo-optic effects in high average power double-clad silica fiber lasers	Brown, D.C.; Hoffman, H.J.
38	2,326	2002	An out-of-plane grating coupler for efficient butt-coupling between compact planar waveguides and single-mode fibers	Taillaert, D.; Bogaerts, W.; Bienstman, P.; Krauss, T.F.; Van Daele, P.; Moerman, I.; Verstuyft, S.; De Mesel, K.; Baets, R.
39	870	2003	Absorption, carrier lifetime, and gain in InAs-GaAs quantum-dot infrared photodetectors	Kochman, Boaz; Stiff-Roberts, A.D.; Chakrabarti, S.; Phillips, J.D.; Krishna, S.; Singh, J.; Bhattacharya, Pallab
40	838	2004	Optical transmission characteristics of fiber ring resonators	Heebner, J.E.; Wong, V.; Schweinsberg, A.; Boyd, R.W.; Jackson, D.J.
41	557	2005	Optimization of photomixers and antennas for continuous-wave terahertz emission	Gregory, Ian S.; Baker, Colin; Tribe, William R.; Bradley, I.V.; Evans, M.J.; Linfield, E.H.; Davies, Giles; Missous, M.
42	509	2006	High Light-Extraction GaN-Based Vertical LEDs With Double Diffuse Surfaces	Ya-Ju Lee; Hao-Chung Kuo; Tien-Chang Lu; Shing-Chung Wang
43	1,406	2007	Improved Bend Loss Formula Verified for Optical Fiber by Simulation and Experiment	Schermer, R.T.; Cole, J.H.
44	674	2008	Ga-Doped ZnO Transparent Conductive Oxide Films Applied to GaN-Based Light-Emitting Diodes for Improving Light Extraction Efficiency	Jinn-Kong Sheu; Ming-Lun Lee; Lu, Y.S.; Shu, K.W.
45	795	2009	Fundamental Formulation for Plasmonic Nanolasers	Shu-Wei Chang; Shun Lien Chuang
46	1,043	2010	Frequency-Dependent Complex Conductivities and Dielectric Responses of Indium Tin Oxide Thin Films From the Visible to the Far-Infrared	Chen, Ching-Wei; Yen-Cheng Lin; Chia-Hua Chang; Peichen Yu; Jia-Min Shieh; Ci-Ling Pan
47	1,035	2011	Optical and Electrical Properties of GaN-Based Light Emitting Diodes Grown on Micro- and Nano-Scale Patterned Si Substrate	Ching-Hsueh Chiu; Chien-Chung Lin; Deng, Dong-Mei; Da-Wei Lin; Jin-Chai Li; Zhen-Yu Li; Gia-Wei Shu; Tien-Chang Lu; Ji-Lin Shen; Hao-Chung Kuo; Lau, Kei-May
48	787	2012	A 10-Gb/s 850-nm CMOS OEIC Receiver with a Silicon Avalanche Photodetector	Jin-Sung Youn; Myung-Jae Lee.; Kang-Yeob Park; Woo-Young Choi
49	629	2013	Theoretical Study of Metal-Insulator-Metal Tunneling Diode Figures of Merit	Hashem, I.E.; Rafat, N.H.; Soliman, E.A.
50	1,264	2014	Quality Improvement of GaN on Si Substrate for Ultraviolet Photodetector Application	Chao-Wei Hsu; Yung-Feng Chen; Yan-Kuin Su