

1. Record Nr.	UNINA9910790697203321
Titolo	Optical antennas // [edited by] Mario Agio, Andrea Alu [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-107-23501-4 1-5231-1339-1 1-139-60871-1 1-139-61216-6 1-139-61588-2 1-139-61030-9 1-139-01347-5 1-139-62518-7 1-139-62146-7
Descrizione fisica	1 online resource (xxiii, 455 pages) : digital, PDF file(s)
Classificazione	TEC008080
Disciplina	621.36/5
Soggetti	Optical antennas Nanophotonics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	From near-field optics to optical antennas / D. Pohl -- Optical antenna theory, design and applications / A. Alu and N. Engheta -- Impedance of a nanoantenna / F. Marquier and J.-J. Greffet -- Where high-frequency engineering advances optics. Active nanoparticles as nanoantennas / R.W. Ziolkowski, S. Arslanagic and J. Geng -- Optical antennas for field-enhanced spectroscopy / J. Aizpurua and R. Esteban -- Directionality, polarization and enhancement by optical antennas / N.F. van Hulst, T.H. Taminiau and A.G. Curto -- Antennas, quantum optics and near-field microscopy / V. Sandoghdar, M. Agio, X.-W. Chen, S. Gotzinger and K.-G. Lee -- Nonlinear optical antennas / H. Harutyunyan, G. Volpe and L. Novonty -- Coherent control of nano-optical excitations / W. Pfeiffer, M. Aeschlimann and T. Brixner -- Computational electrodynamics for optical antennas / O.J.F. Martin --

First-principles simulations of near-field effects / J.L. Payton, S.M. Morton and L. Jensen -- Field distribution near optical antennas at the subnanometer scale / C. Pecharroman -- Fabrication and optical characterization of nanoantennas / J. Prangsma, P. Biagioni and B. Hecht -- Probing and imaging of optical nanoantennas with PEEM / P. Melchior, D. Bayer and M. Aeschlimann -- Fabrication, characterization and applications of optical antenna arrays / D. Dregely, J. Dorfmueller, M. Hentschel and H. Giessen -- Novel fabrication methods for optical antennas / W. Zhou, J.Y. Suh and T.W. Odom -- Plasmonic properties of colloidal clusters : towards new nanomaterials and optical circuits / J.A. Fan and F. Capasso -- Optical antennas for information technology and energy harvesting / M.L. Brongersma -- Nanoantennas for refractive-index sensing / T. Shegai, M. Svedendahl, S. Chen, A. Dahlin and M. Kall -- Nanoimaging with optical antennas / P. Verma and Y. Saito -- Aperture optical antennas / J. Wenger.

Sommario/riassunto

This consistent and systematic review of recent advances in optical antenna theory and practice brings together leading experts in the fields of electrical engineering, nano-optics and nano-photonics, physical chemistry and nanofabrication. Fundamental concepts and functionalities relevant to optical antennas are explained, together with key principles for optical antenna modelling, design and characterisation. Recognising the tremendous potential of this technology, practical applications are also outlined. Presenting a clear translation of the concepts of radio antenna design, near-field optics and field-enhanced spectroscopy into optical antennas, this interdisciplinary book is an indispensable resource for researchers and graduate students in engineering, optics and photonics, physics and chemistry.
