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Collana	Advances in Multi-Photon Processes and Spectroscopy ; ; v.18
Altri autori (Persone)	FujimuraY (Yuichi) LinS. H <1937-> (Sheng Hsien) VillaeysA. A
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Nota di contenuto	Contents; Preface; 1. Nonlinear Optics for Characterizing XUV/Soft X-ray High-order Harmonic Fields in Attosecond Regime Yasuo Nabekawa and Katsumi Midorikawa; 1. Introduction; 1.1. Nonlinear phenomena in XUV/soft X-ray region for ultrafast optics; 1.2. Autocorrelation measurement; 2. Generation of Intense Harmonic Fields; 2.1. Single atom response; 2.2. Propagation of the harmonic fields with pumping laser field: Phase matching; 2.3. Development of intense high-order harmonic generator; 3. Two-Photon Double Ionization; 4. Measurement of Attosecond Pulse Train with Two-Photon ATI 5. Interferometric Autocorrelation of APT with Two-Photon Coulomb Explosion 5.1. Similarity of APT with mode-locked laser pulses; 5.2. Why do we need interferometric autocorrelation?; 5.3. Two-photon Coulomb explosion; 5.4. Interferometric autocorrelation; 6. Summary and Prospects; Acknowledgements; References; 2. Signatures of

Molecular Structure and Dynamics in High-Order Harmonic Generation Manfred Lein and Ciprian C. Chiril a; 1. Introduction; 2. Theory of High-Order Harmonic Generation; 2.1. Basic theory; 2.2. Three-step model; 2.3. The strong-field approximation
2.4. Odd and even harmonics3. Influence of Molecular Structure on HHG; 3.1. Ionization step; 3.2. Recombination step; 4. Dynamical Effects; 5. Conclusions; Acknowledgments; References; 3. Molecular Manipulation Techniques and Their Applications Hirofumi Sakai; 1. Introduction; 2. Theoretical Background; 3. Molecular Orientation with Combined Electrostatic and Intense, Nonresonant Laser Fields; 3.1. One-dimensional molecular orientation; 3.2. Three-dimensional molecular orientation; 4. Applications with a Sample of Aligned Molecules
4.1. Optimal control of multiphoton ionization processes in aligned I2 molecules with time-dependent polarization pulses 4.2. High-order harmonic generation from aligned molecules; 5. Summary and Outlook; Acknowledgments; References; 4. Sum Frequency Generation: An Introduction with Recent Developments and Current Issues Mary Jane Shultz; 1. Introduction; 2. Electric Fields and Orientation Factors; 2.1. Fresnel factors and propagation direction; 2.2. Orientation factors; 2.2.1. Simplification of the orientation tensor; 2.3. Observed intensity; 2.3.1. Molecular examples; 3. Recent Developments
3.1. Absolute orientation determination with a reference 3.2. Orthogonal resonances; 3.3. Null angle; 3.3.1. Visible angle null, VAN; 3.3.2. Polarization angle null, PAN; 3.3.3. Connection with previous work; 3.3.4. Example; 4. Current Issues in Sum Frequency Generation; 4.1. Interfacial optical constants and bulk contributions; 4.2. Collective modes - a theoretical challenge; 4.3. Probe depth; 4.4. Nanoparticle SFG; 4.5. Time resolution; 4.6. Surface 2D imaging; 5. Selected Results; 5.1. Ions at aqueous surfaces: The case for surface H3O+; 5.2. Interactions at nanostructured interfaces
6. Summary

Sommario/riassunto

This book presents the latest developments and issues in both experimental and theoretical studies of multi-photon processes and the spectroscopy of atoms, ions and molecules in physics, chemistry, biology and material science. It contains review papers suitable for both active researchers and non-experts who wish to enter the field.Special attention is paid to the recent progress of non-linear photon-matter interactions in atoms, molecules and interfaces: XUV/soft X-ray, high-order harmonic generation in attosecond regime, high-order harmonic generation, sum frequency generation, four-wave

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Descrizione fisica	1 online resource (xvii, 356 pages) : digital, PDF file(s)
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Jimenez Andrade; 5b. Neuropathic pain: basic science Patrick M. Dougherty and Haijun Zhang; 6. Cognitive dysfunction: is chemobrain real? Christina A. Meyers and Jeffrey S. Wefel; 7. Cognitive impairment: basic science Perry N. Fuchs, Jessica A. Boyette-Davis and Adrian J. Dunn; 8. Depression in cancer: pathophysiology at the mind-body interface Andrew H. Miller, Michael A. Burke and Charles L. Raison; 9. Depressive illness: basic science: 9a. Animal models of depressed mood and sickness behavior Adrian J. Dunn; 9b. From inflammation to sickness and depression: the cytokine connection Robert Dantzer and Keith W. Kelly; 10. Cancer-related fatigue: clinical science Xin Shelley Wang; 11. Developing translational animal models of cancer-related fatigue Mary W. Meagher; 12. Cancer anorexia/weight loss syndrome Aminah Jatoi and Nisha Lassi; 13. Appetite loss/cachexia: basic science Tristin D. Brisbois-Clarkson, Wendy V. Wismer and Vickie E. Baracos; 14. Sleep and its disorders: clinical science Sofia Ancoli-Israel and Lianqi Liu; 15. Sleep and its disorders Mark R. Opp and Luca Imeri; 16. Proteins and symptoms Bang-Ning Lee and James M. Reuben; 17. Genetic approaches to treating and preventing symptoms in patients with cancer Quiling Shi and Charles S. Cleeland; 18. Functional imaging of symptoms T. Dorina Papageorgiou, Edward F. Jackson and Javier O. Valenzuela; 19. High-dose therapy and posttransplantation symptom burden: striking a balance Sergio A. Giralt and Loretta A. Williams; Part III. Clinical Perspectives in Symptom Management and Research: 20. Promoting symptom research in cooperative groups Lynne I. Wagner and David Cella; 21. Practical aspects of symptom management in patients with cancer Richard T. Lee and Michael J. Fisch; Part IV. Symptom Measurement: 22. Symptom measurement by patient report Charles S. Cleeland and Tito R. Mendoza; 23. The economics of cancer-related symptoms: valuing supportive care interventions Lesley-Ann Miller and Jane C. Weeks; 24. Longitudinal models for symptoms Diane L. Fairclough; 25. Bayesian adaptive design: a new approach to test the effectiveness of symptom-reducing agents using patient-reported outcomes Valen E. Johnson and Tito R. Mendoza; Part V. Government and Industry Perspectives: 26. Promoting cancer symptom science research Ann O'Mara and Maria Sgambati; 27. Developing symptom management drugs Joanna M. Brell and Lori M. Minasian; 28. Cancer-related symptoms: issues for consideration in drug and therapeutic biological product label claims in the United States Jane A. Scott; 29. Symptom research: looking ahead Charles S. Cleeland, Adrian J. Dunn and Michael J. Fisch; Index.

Sommario/riassunto

Cancer Symptom Science is the first interdisciplinary compilation of research on the mechanisms underlying the expression of cancer-related symptoms. It presents innovations in clinical, animal and in vitro research, research methods in brain imaging, and statistical-descriptive approaches to understanding the mechanistic basis of symptom expression. This volume also provides perspectives from patients, government and industry. By collecting and synthesizing the developing threads of new approaches to understanding cancer-related symptoms, the book promotes a pioneering framework for merging behavioral and biological disciplines to clarify mechanisms of symptom evolution, incorporating new technologies, testing novel agents for symptom control, and improving patient functioning and quality of life both during and after cancer treatment. With an expert editorial team led by Charles S. Cleeland, an internationally-recognized leader in cancer pain assessment and treatment, this is essential reading for surgical, clinical and medical oncologists, academic researchers, and pharmaceutical companies developing new agents to control symptom expression.