



Focusing scheme for dipole wave production using 12 laser pulses and the anomalous radiative trapping effect. [A. Gonoskov, A. Bashinov, I. Gonoskov, C. Harvey, A. Ilderton, A. Kim, M. Marklund, G. Mourou, and A. Sergeev, *Phys. Rev. Lett.* **113**, 014801 (20140)]

NEWSPAPER

PHYSICAL REVIEW LETTERS™

Contents

Articles published 28 June–4 July 2014

VOLUME 113, NUMBER 1

4 July 2014

General Physics: Statistical and Quantum Mechanics, Quantum Information, etc.

Fourier Transform for Fermionic Systems and the Spectral Tensor Network	010401
Andrew J. Ferris	
Optimal Control of Effective Hamiltonians	010501
Albert Verdeny, Łukasz Rudnicki, Cord A. Müller, and Florian Mintert	
Information Theoretical Analysis of Quantum Optimal Control	010502
S. Lloyd and S. Montangero	
Quench Dynamics of One-Dimensional Interacting Bosons in a Disordered Potential: Elastic Dephasing and Critical Speeding-Up of Thermalization	010601
Marco Tavora, Achim Rosch, and Aditi Mitra	

Gravitation and Astrophysics

Cosmological Constraints on Brans-Dicke Theory	011101
A. Avilez and C. Skordis	
Search for Gravitational Waves Associated with γ -ray Bursts Detected by the Interplanetary Network	011102
J. Aasi <i>et al.</i> (LIGO Scientific Collaboration, Virgo Collaboration, and IPN Collaboration)	

Elementary Particles and Fields

Persistent Superconductor Currents in Holographic Lattices	011601
Norihiro Iizuka, Akihiro Ishibashi, and Kengo Maeda	
Tensor Interpretation of BICEP2 Results Severely Constrains Axion Dark Matter	011801
David J. E. Marsh, Daniel Grin, Renée Hlozek, and Pedro G. Ferreira	
Axion Cold Dark Matter in View of BICEP2 Results	011802
Paolo Gondolo and Luca Visinelli	
Evidence for Polarization of Gluons in the Proton	012001
Daniel de Florian, Rodolfo Sassot, Marco Stratmann, and Werner Vogelsang	

Nuclear Physics

Isospin Character of Low-Lying Pygmy Dipole States in ^{208}Pb via Inelastic Scattering of ^{17}O Ions	012501
F. C. L. Crespi <i>et al.</i>	
Evidence for Triangular $\mathcal{D}_{3h}$ Symmetry in ^{12}C	012502
D. J. Marín-Lámbbari, R. Bijker, M. Freer, M. Gai, Tz. Kokalova, D. J. Parker, and C. Wheldon	

Atomic, Molecular, and Optical Physics

All-Optical Vector Atomic Magnetometer	013001
B. Patton, E. Zhivun, D. C. Hovde, and D. Budker	

(Continued Inside)

Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement *Phys. Rev. Lett.* 98, 010001 (2007).

Copyright 2014 American Physical Society



0031-9007(20140704)113:1;1-H

Contents (Continued)

Bright Solitonic Matter-Wave Interferometer	013002
G. D. McDonald, C. C. N. Kuhn, K. S. Hardman, S. Bennetts, P. J. Everitt, P. A. Altin, J. E. Debs, J. D. Close, and N. P. Robins	
✂ Exploring a New Regime for Processing Optical Qubits: Squeezing and Unsqueezing Single Photons	013601
Yoshichika Miwa, Jun-ichi Yoshikawa, Noriaki Iwata, Mamoru Endo, Petr Marek, Radim Filip, Peter van Loock, and Akira Furusawa	
Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.	
✂ Nonlinear Inverse Synthesis and Eigenvalue Division Multiplexing in Optical Fiber Channels	013901
Jaroslav E. Prilepsky, Stanislav A. Derevyanko, Keith J. Blow, Ildar Gabitov, and Sergei K. Turitsyn	
✂ Harnessing Buckling to Design Tunable Locally Resonant Acoustic Metamaterials	014301
Pai Wang, Filippo Casadei, Sicong Shan, James C. Weaver, and Katia Bertoldi	
Influence of Slip on the Rayleigh-Plateau Rim Instability in Dewetting Viscous Films	014501
Oliver Bäumchen, Ludovic Marquant, Ralf Blossey, Andreas Münch, Barbara Wagner, and Karin Jacobs	
Plasma and Beam Physics	
Anomalous Radiative Trapping in Laser Fields of Extreme Intensity	014801
A. Gonoskov, A. Bashinov, I. Gonoskov, C. Harvey, A. Ilderton, A. Kim, M. Marklund, G. Mourou, and A. Sergeev	
Condensed Matter: Structure, etc.	
Excitation Spectrum of the Lieb-Liniger Model	015301
Zoran Ristivojevic	
Condensed Matter: Electronic Properties, etc.	
Quantum Anomalous Hall Insulator of Composite Fermions	016801
Yinhan Zhang and Junren Shi	
Soft Matter, Biological, and Interdisciplinary Physics	
✂ Dielectric Effects in the Self-Assembly of Binary Colloidal Aggregates	017801
Kipton Barros and Erik Luijten	
Measurement of Proton Tunneling in Short Hydrogen Bonds in Single Crystals of 3,5 Pyridinedicarboxylic Acid Using Nuclear Magnetic Resonance Spectroscopy	018301
I. Frantsuzov, S. J. Ford, I. Radosavljevic Evans, A. J. Horsewill, H. P. Trommsdorff, and M. R. Johnson	
Comments	
Comment on “Exotic Paired States with Anisotropic Spin-Dependent Fermi Surfaces”	019601
Simone Chiesa and George Batrouni	
Feiguin and Fisher Reply	019602
Adrian E. Feiguin and Matthew P. A. Fisher	
Errata	
Retraction: Observation of Topological Structures in Photonic Quantum Walks [Phys. Rev. Lett. 112, 120502 (2014)]	019901
Graciana Puentes, Ilja Gerhardt, Fabian Katzschmann, Christine Silberhorn, Jörg Wrachtrup, and Maciej Lewenstein	



Selected for a Viewpoint in *Physics*. Please visit <http://physics.aps.org/>.

By suggesting a few manuscripts each week, we hope to promote reading across fields. Please see our Announcement Phys. Rev. Lett. 98, 010001 (2007).

Physics
spotlighting exceptional research

The American Physical Society's free online publication, *Physics* (<http://physics.aps.org/>), provides thought-provoking analysis and spotlights exceptional research.