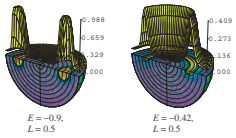

Contour plots and density profiles of a rotating, self-gravitating N-body system showing the formation of a stable double cluster (left) and an unstable ring (right) at different energies. The double-cluster structure illustrates the spontaneous breaking of rotational symmetry at intermediate energy and high angular momentum. See article 031101.

PHYSICAL REVIEW LETTERS

Contents

VOLUME 89, NUMBER 3 15 July 2002

General Physics

Mermin-Ho Vortex in Ferromagnetic Spinor Bose-Einstein Condensates 030401
T. Mizushima, K. Machida, and T. Kita

Delocalizing Transition of Bose-Einstein Condensates in Optical Lattices 030402
G. Kalosakas, K. Ø. Rasmussen, and A. R. Bishop

Quantum Melting and Absence of Bose-Einstein Condensation in Two-Dimensional Vortex Matter 030403
Jairo Sinova, C. B. Hanna, and A. H. MacDonald

Exact Free Energy Functional for a Driven Diffusive Open Stationary Nonequilibrium System 030601
B. Derrida, J. L. Lebowitz, and E. R. Speer

Gravitation and Astrophysics

Microcanonical Mean-Field Thermodynamics of Self-Gravitating and Rotating Systems 031101
E. V. Votyakov, H. I. Hidmi, A. De Martino, and D. H. E. Gross

Supersonic Turbulence and Structure of Interstellar Molecular Clouds 031102
Stanislav Boldyrev, Åke Nordlund, and Paolo Padoan

Elementary Particles and Fields

Evidence for the Color-Octet Mechanism from CERN LEP2 $\gamma\gamma \to J/\psi + X$ Data 032001
Michael Klasen, Bernd A. Kniehl, Luminiţa N. Mihaila, and Matthias Steinhauser

Nuclear Physics

What Does the Free Space $\Lambda\Lambda$ Interaction Predict for $\Lambda\Lambda$ Hypernuclei? 032501
C. Albertus, J. E. Amaro, and J. Nieves

Atomic, Molecular, and Optical Physics

Repulsive Casimir Forces 033001
O. Kenneth, I. Klich, A. Mann, and M. Revzen

Nondipolar Electron Angular Distributions from Fixed-in-Space Molecules 033002
R. Guillemin, O. Hemmers, D. W. Lindle, E. Shigemasa, K. Le Guen, D. Ceolin, C. Miron, N. Leclercq, P. Morin, M. Simon, and P. W. Langhoff

Asymptotic Behavior of the Kohn-Sham Exchange Potential 033003
Fabio Della Sala and Andreas Görling

Mechanisms of Photo Double Ionization of Helium by 530 eV Photons 033004
A. Knapp, A. Kheifets, I. Bray, Th. Weber, A. L. Landers, S. Schössler, T. Jahnke, J. Nickles, S. Kammer, O. Jagutzki, L. Ph. H. Schmidt, T. Osipov, J. Rösch, M. H. Prior, H. Schmidt-Böcking, C. L. Cocke, and R. Dörner

(Continued on Third Cover)

PRL 89 (3), 030401–03039901, 15 July 2002 (192 total pages)

Copyright 2002 by The American Physical Society

Contents (Continued)

Four-Body Reaction Dynamics: Complete Correlated Fragment Measurement of the Dissociative Photodetachment Dynamics of O_8^- 033005
Todd G. Clements and Robert E. Continetti
Bonding in Cu, Ag, and Au Clusters: Relativistic Effects, Trends, and Surprises 033401
Hannu Häkkinen, Michael Moseler, and Uzi Landman

Nonlinear Dynamics, Fluid Dynamics, Classical Optics, etc.
Twist Defect in Chiral Photonic Structures 033901
Victor I. Kopp and Azriel Z. Genack
Solitonlike Beam Propagation along Light-Induced Singularity of Space Charge in Fast Photorefractive Media 033902
G. F. Calvo, B. Sturman, F. Agulló-López, and M. Carrascosa
Multiscale Clustering in Granular Surface Flows 034301
D. Bonamy, F. Daviaud, L. Laurent, M. Bonetti, and J. P. Bouchaud
Normal-Mode–Vortex Interactions 034501
R. Bernal, C. Coste, F. Lund, and F. Melo

Plasma and Beam Physics
Phonon Spectrum in a Plasma Crystal 035001
S. Nunomura, J. Goree, S. Hu, X. Wang, A. Bhattacharjee, and K. Avinash
White-Light Nanosource with Directional Emission 035002
Catherine Favre, Véronique Boutou, Steven C. Hill, Wiebke Zimmer, Marcel Krenz, Hendrik Lambrecht, Jin Yu, Richard K. Chang, Ludger Woeste, and Jean-Pierre Wolf
High Energy Density *Z*-Pinch Plasma Conditions with Picosecond Time Resolution 035003
S. A. Pikuz, D. B. Sinars, T. A. Shelkovenko, K. M. Chandler, D. A. Hammer, G. V. Ivanenkov, W. Stepniewski, and I. Yu. Skobelev

Condensed Matter: Structure, etc.
Phase Behavior in Thin Films of Cylinder-Forming Block Copolymers 035501
A. Knoll, A. Horvat, K. S. Lyakhova, G. Krausch, G. J. A. Sevink, A. V. Zvelindovsky, and R. Magerle
Tetra Point Wetting at the Free Surface of Liquid Ga-Bi 035502
P. Huber, O. G. Shpyrko, P. S. Pershan, B. M. Ocko, E. DiMasi, and M. Deutsch
Intermittent Dynamics of Critical Fluctuations 035701
Y. F. Contoyiannis, F. K. Diakonos, and A. Malakis
Criterion for Phase Separation in One-Dimensional Driven Systems 035702
Y. Kafri, E. Levine, D. Mukamel, G. M. Schütz, and J. Török
Deconfinement in the Two-Dimensional *XY* Model 035703
H. A. Fertig
Geometrical Explanation and Scaling of Dynamical Heterogeneities in Glass Forming Systems 035704
Juan P. Garrahan and David Chandler
Linking Surface Stress to Surface Structure: Measurement of Atomic Strain in a Surface Alloy using Scanning Tunneling Microscopy 036101
G. E. Thayer, N. C. Bartelt, V. Ozolins, A. K. Schmid, S. Chiang, and R. Q. Hwang

Condensed Matter: Electronic Properties, etc.
Glass Transition in the Polaron Dynamics of Colossal Magnetoresistive Manganites 036401
D. N. Argyriou, J. W. Lynn, R. Osborn, B. Campbell, J. F. Mitchell, U. Ruett, H. N. Bordallo, A. Wildes, and C. D. Ling
Staircase in the Electron Mobility of a ZnO Quantum Dot Assembly due to Shell Filling 036801
A. L. Roest, J. J. Kelly, D. Vanmaekelbergh, and E. A. Meulenkamp
Temperature Control of Electronic Channels through a Single Atom 036802
Gérald Dujardin, Andrew J. Mayne, and Franck Rose
Pronounced In-Plane Anisotropy of Phonon Anomalies in $YBa_2Cu_3O_{6.6}$ 037001
L. Pintschovius, W. Reichardt, M. Kläser, T. Wolf, and H. v. Löhneysen

(Continued on Preceding Page)

Contents (Continued)

Spin-Triplet Superconductivity in UNi_2Al_3 Revealed by the ^{27}Al Knight Shift Measurement 037002
K. Ishida, D. Ozaki, T. Kamatsuka, H. Tou, M. Kyogaku, Y. Kitaoka, N. Tateiwa, N. K. Sato, N. Aso, C. Geibel, and F. Steglich

Spectral Measurement of the Hall Angle Response in Normal State Cuprate Superconductors 037003
M. Grayson, L. B. Rigal, D. C. Schmadel, H. D. Drew, and P.-J. Kung

Critical Behavior of Frustrated Josephson Junction Arrays with Bond Disorder 037004
Young-Je Yun, In-Cheol Baek, and Mu-Yong Choi

Field-Induced Magnetization Distribution and Antiferroquadrupolar Order in CeB_6 037201
A. Schenck, F. N. Gygax, and S. Kunii

Stationary Off-Equilibrium Magnetization in Ferrofluids under Rotational and Elongational Flow 037202
Stefan Odenbach and Hanns Walter Müller

Magnetic Enhancement in Nanoscale CoRh Particles 037203
David Zitoun, Marc Respaud, Marie-Claire Fromen, Marie José Casanove, Pierre Lecante, Catherine Amiens, and Bruno Chaudret

Peierls-Like Transition Induced by Frustration in a Two-Dimensional Antiferromagnet 037204
Federico Becca and Frédéric Mila

Interdisciplinary Physics: Biological Physics, Quantum Information, etc.

Quantum Entanglement in Carbon Nanotubes 037901
Cristina Bena, Smitha Vishveshwara, Leon Balents, and Matthew P. A. Fisher

Differential Phase Shift Quantum Key Distribution 037902
Kyo Inoue, Edo Waks, and Yoshihisa Yamamoto

Uniqueness of the Entanglement Measure for Bipartite Pure States and Thermodynamics 037903
Vlatko Vedral and Elham Kashefi

Conditional-Phase Switch at the Single-Photon Level 037904
Kevin J. Resch, Jeffrey S. Lundeen, and Aephraim M. Steinberg

Model for Mutation in Bacterial Populations 038101
R. Donangelo and H. Fort

Traveling Waves and Nonequilibrium Stationary Patterns in Two-Component Reactive Langmuir Monolayers 038301
Ramon Reigada, Francesc Sagués, and Alexander S. Mikhailov

Comments

Comment on "Origin of Giant Optical Nonlinearity in Charge-Transfer-Mott Insulators: A New Paradigm for Nonlinear Optics" 039701
R. T. Clay and S. Mazumdar

G. P. Zhang Replies 039702
G. P. Zhang

Comment on "Magneto Infrared Absorption in High Electron Density GaAs Quantum Wells" 039703
Bo Zhang, M. F. Manger, and E. Batke

Poulter *et al.* Reply 039704
A. J. L. Poulter, C. Faugeras, J. Zeman, M. Potemski, D. K. Maude, and G. Martinez

Errata

Editorial Note: Observation of Superheavy Nuclei Produced in the Reaction of ^{86}Kr with ^{208}Pb [Phys. Rev. Lett. **83**, 1104 (1999)] 039901
V. Ninov, K. E. Gregorich, W. Loveland, A. Ghiorso, D. C. Hoffman, D. M. Lee, H. Nitsche, W. J. Swiatecki, U. W. Kirbach, C. A. Laue, J. L. Adams, J. B. Patin, D. A. Shaughnessy, D. A. Strellis, and P. A. Wilk