

## PHYSICAL REVIEW LETTERS

## Contents

VOLUME 78, NUMBER 21

26 May 1997

**General Physics**

- Self-Organized Short-Term Memories ..... 3983  
 S.N. Coppersmith, T.C. Jones, L.P. Kadanoff, A. Levine, J.P. McCarten, S.R. Nagel, S.C. Venkataramani,  
 and Xinlei Wu
- Scaling and Thermodynamics of a Trapped Bose-Condensed Gas ..... 3987  
 S. Giorgini, L.P. Pitaevskii, and S. Stringari

**Elementary Particles and Fields**

- Precision Higgs Boson Mass Determination at Lepton Colliders ..... 3991  
 V. Barger, M.S. Berger, J.F. Gunion, and T. Han
- Predictions for  $B \rightarrow D_1(2420)\ell\bar{\nu}$  and  $B \rightarrow D_2^*(2460)\ell\bar{\nu}$  at Order  $\Lambda_{\text{QCD}}/m_{c,b}$  ..... 3995  
 Adam K. Leibovich, Zoltan Ligeti, Iain W. Stewart, and Mark B. Wise
- Annihilation, Rescattering, and  $CP$  Asymmetries in  $B$  Meson Decays ..... 3999  
 Boris Blok, Michael Gronau, and Jonathan L. Rosner
- Spin Transfer in Inclusive  $\Lambda^0$  Production by Transversely Polarized Protons at 200 GeV/c ..... 4003  
 A. Bravar *et al.* (Fermilab E704 Collaboration)

**Nuclear Physics**

- Subthreshold Production of Kaons and Antikaons in Nucleus-Nucleus Collisions at Equivalent Beam Energies ..... 4007  
 R. Barth, P. Senger, W. Ahner, P. Beckerle, C. Bormann, D. Brill, M. Cieřlak, M. Dębowski, E. Grosse,  
 P. Koczoń, B. Kohlmeier, D. Miřkowiec, C. Müntz, H. Oeschler, F. Pühlhofer, E. Schwab, R. Schicker,  
 Y. Shin, J. Speer, H. Ströbele, Ch. Sturm, K. Völkel, A. Wagner, and W. Waluř (KaoS Collaboration)
- Deuteron Electrodisintegration in the  $\Delta$ -Resonance Region ..... 4011  
 A. Pellegrino, H. Arenhövel, H.P. Blok, D. van Dierendonck, G.E. Dodge, W.H.A. Hesselink, E. Jans,  
 N. Kalantar-Nayestanaki, W.-J. Kasdorp, L. Lapikás, J.J. van Leeuwe, W. Leidemann, A. Misiejuk,  
 C.J.G. Onderwater, G. van der Steenhoven, R. Starink, J.J.M. Steijger, J.A. Templon, J.L. Visschers,  
 T. Wilbois, P. Wilhelm, H.W. Willering, and D.M. Yeomans
- Is There a Pronounced Giant Dipole Resonance in  $^4\text{He}$ ? ..... 4015  
 Victor D. Efros, Winfried Leidemann, and Giuseppina Orlandini

**Atomic, Molecular, and Optical Physics**

- Dichroism in the  $3p$  Photoionization of Polarized Cr Atoms ..... 4019  
 A. von dem Borne, T. Dohrmann, A. Verweyen, B. Sonntag, K. Godehusen, and P. Zimmermann
- Ramsey-Type Subrecoil Cooling ..... 4023  
 Frank Sander, Thibaut Devolder, Tilman Esslinger, and Theodor W. Hänsch
- Threshold Law For Positron Impact Ionization of Atoms ..... 4027  
 W. Ihra, J.H. Macek, F. Mota-Furtado, and P.F. O'Mahony

**Nonlinear Dynamics, Fluid Dynamics, Classical Optics, Etc.**

- Diffusion in Normal and Critical Transient Chaos ..... 4031  
 Z. Kaufmann, H. Lustfeld, A. Németh, and P. Szépfalusy

(Continued on Third Cover)

## Contents (Continued)

|                                                                                                                                                                                   |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Photorefractive Saturable Kerr-Type Nonlinearity in Photovoltaic Crystals .....                                                                                                   | 4035 |
| S. Bian, J. Frejlich, and K.H. Ringhofer                                                                                                                                          |      |
| Scaling Properties in Large Assemblies of Simple Dynamical Units Driven by Long-Wave Random Forcing .....                                                                         | 4039 |
| Yoshiki Kuramoto and Hiroya Nakao                                                                                                                                                 |      |
| Nonlinear Pattern Formation of Faraday Waves .....                                                                                                                                | 4043 |
| Doug Binks and Willem van de Water                                                                                                                                                |      |
| <b>Plasma and Beam Physics</b>                                                                                                                                                    |      |
| Plasma Channel Formation and Guiding during High Intensity Short Pulse Laser Plasma Experiments .....                                                                             | 4047 |
| K. Krushelnick, A. Ting, C.I. Moore, H.R. Burris, E. Esarey, P. Sprangle, and M. Baine                                                                                            |      |
| <b>Condensed Matter: Structure, Etc.</b>                                                                                                                                          |      |
| Properties of a Glass-Forming System as Derived from Its Potential Energy Landscape .....                                                                                         | 4051 |
| Andreas Heuer                                                                                                                                                                     |      |
| Coil Formation in Multishell Carbon Nanotubes: Competition between Curvature Elasticity and Interlayer Adhesion .....                                                             | 4055 |
| Ou-Yang Zhong-can, Zhao-Bin Su, and Chui-Lin Wang                                                                                                                                 |      |
| Stabilization of Ternary Compounds via Ordered Arrays of Defect Pairs .....                                                                                                       | 4059 |
| S.B. Zhang, Su-Huai Wei, and Alex Zunger                                                                                                                                          |      |
| First-Principles Determination of the Soft Mode in Cubic ZrO <sub>2</sub> .....                                                                                                   | 4063 |
| K. Parlinski, Z.Q. Li, and Y. Kawazoe                                                                                                                                             |      |
| Random Matrix Approach to Glassy Physics: Low Temperatures and Beyond .....                                                                                                       | 4067 |
| Reimer Kühn and Uta Horstmann                                                                                                                                                     |      |
| Observation of Reentrant 2D to 3D Morphology Transition in Highly Strained Epitaxy: InAs on GaAs .....                                                                            | 4071 |
| R. Heitz, T.R. Ramachandran, A. Kalburge, Q. Xie, I. Mukhametzhanov, P. Chen, and A. Madhukar                                                                                     |      |
| Soft-Landing Ion Deposition of Isolated Radioactive Probe Atoms on Surfaces: A Novel Method .....                                                                                 | 4075 |
| C.R. Laurens, M.F. Roşu, F. Pleiter, and L. Niesen                                                                                                                                |      |
| <b>Condensed Matter: Electronic Properties, Etc.</b>                                                                                                                              |      |
| Fermi Level Pinning of a Massive Electron State in YbBiPt .....                                                                                                                   | 4079 |
| P.M. Oppeneer, V.N. Antonov, A.N. Yaresko, A. Ya. Perlov, and H. Eschrig                                                                                                          |      |
| The Anderson Transition: Time Reversal Symmetry and Universality .....                                                                                                            | 4083 |
| Keith Slevin and Tomi Ohtsuki                                                                                                                                                     |      |
| Gate-Voltage Studies of Discrete Electronic States in Aluminum Nanoparticles .....                                                                                                | 4087 |
| D.C. Ralph, C.T. Black, and M. Tinkham                                                                                                                                            |      |
| Mesoscopic Voltage Fluctuations in Luttinger Liquids .....                                                                                                                        | 4091 |
| Scot R. Renn and Daniel P. Arovas                                                                                                                                                 |      |
| Spin and Charge Density Excitations and the Collapse of the Fractional Quantum Hall State at $\nu = 1/3$ .....                                                                    | 4095 |
| H.D.M. Davies, J.C. Harris, J.F. Ryan, and A.J. Turberfield                                                                                                                       |      |
| Acoustically Driven Storage of Light in a Quantum Well .....                                                                                                                      | 4099 |
| C. Roche, S. Zimmermann, A. Wixforth, J.P. Kotthaus, G. Böhm, and G. Weimann                                                                                                      |      |
| Tunneling and Orthogonality Catastrophe in the Topological Mechanism of Superconductivity .....                                                                                   | 4103 |
| A.G. Abanov and P.B. Wiegmann                                                                                                                                                     |      |
| Dispersion of a Hole in a Two-Dimensional Cu <sub>3</sub> O <sub>4</sub> Plane: A Tale of Two Singlets .....                                                                      | 4107 |
| Mark S. Golden, Heike C. Schmelz, Martin Knupfer, Stefan Haffner, Gernot Krabbes, Jörg Fink, Victor Yu. Yushankhai, Helge Rosner, Roland Hayn, Andreas Müller, and Gerd Reichardt |      |
| Unusual Superconducting State of Underdoped Cuprates .....                                                                                                                        | 4111 |
| Patrick A. Lee and Xiao-Gang Wen                                                                                                                                                  |      |
| Correlation Lengths in Quantum Spin Ladders .....                                                                                                                                 | 4115 |
| Olav F. Syljuåsen, Sudip Chakravarty, and Martin Greven                                                                                                                           |      |
| Observation of Standing Acoustic Waves by Resonant Raman Scattering .....                                                                                                         | 4119 |
| A. Mlayah, R. Grac, G. Armelles, R. Carles, A. Zwick, and F. Briones                                                                                                              |      |
| Giant Photoinduced Excitonic Faraday Rotation in CdTe/Cd <sub>1-x</sub> Mn <sub>x</sub> Te Multiple Quantum Wells .....                                                           | 4123 |
| C. Buss, R. Pankoke, P. Leisching, J. Cibert, R. Frey, and C. Flytzanis                                                                                                           |      |

(Continued on Preceding Page)

*Contents (Continued)*

|                                                                                                                             |      |
|-----------------------------------------------------------------------------------------------------------------------------|------|
| Applicability of the Single Impurity Model to Photoemission Spectroscopy of Heavy Fermion Ce Compounds .....                | 4127 |
| M. Garnier, K. Breuer, D. Purdie, M. Hengsberger, Y. Baer, and B. Delley                                                    |      |
| <b>Cross-Disciplinary Physics</b>                                                                                           |      |
| Self-Gating of Ion Channels in Cell Adhesion .....                                                                          | 4131 |
| Peter Fromherz                                                                                                              |      |
| <b>Comments</b>                                                                                                             |      |
| Comment on “Extremely Low Frequency Plasmons in Metallic Mesostructures” .....                                              | 4135 |
| S.A. Mikhailov                                                                                                              |      |
| Pendry <i>et al.</i> Reply .....                                                                                            | 4136 |
| J.B. Pendry, A.J. Holden, W.J. Stewart, and I. Youngs                                                                       |      |
| <b>Errata</b>                                                                                                               |      |
| Observation of the Local Structure of Landau Bands in a Disordered Conductor [Phys. Rev. Lett. <b>78</b> , 1540 (1997)] ... | 4137 |
| T. Schmidt, R.J. Haug, Vladimir I. Fal’ko, K.v. Klitzing, A. Förster, and H. Lüth                                           |      |