

PHYSICAL REVIEW D

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 0556-2821)

PERIODICALS

Postmaster send address changes to:
American Institute of Physics
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 66, NUMBER 4

CONTENTS

15 AUGUST 2002

RAPID COMMUNICATIONS

Density of cold dark matter (5 pages)	041301(R)
Alessandro Melchiorri and Joseph Silk	
Shape of a small universe: Signatures in the cosmic microwave background (4 pages)	041302(R)
R. Bowen and P. G. Ferreira	
Nonlinear r -modes in neutron stars: Instability of an unstable mode (5 pages)	041303(R)
Philip Gressman, Lap-Ming Lin, Wai-Mo Suen, N. Stergioulas, and John L. Friedman	
Convergence and stability in numerical relativity (4 pages)	041501(R)
Gioel Calabrese, Jorge Pullin, Olivier Sarbach, and Manuel Tiglio	
Stabilizing textures with magnetic fields (5 pages)	041701(R)
R. S. Ward	
Friction in inflaton equations of motion (5 pages)	041702(R)
Ian D. Lawrie	
Singularity threshold of the nonlinear sigma model using 3D adaptive mesh refinement (5 pages)	041703(R)
Steven L. Liebling	

ARTICLES

Neutrino damping rate at finite temperature and density (11 pages)	043001
Eduardo S. Tututi, Manuel Torres, and Juan Carlos D'Olivo	
Numerical and analytical predictions for the large-scale Sunyaev-Zel'dovich effect (13 pages)	043002
Alexandre Refregier and Romain Teyssier	
Inflation, cold dark matter, and the central density problem (12 pages)	043003
Andrew R. Zentner and James S. Bullock	
Size of the smallest scales in cosmic string networks (4 pages)	043501
Xavier Siemens, Ken D. Olum, and Alexander Vilenkin	
Semiclassical force for electroweak baryogenesis: Three-dimensional derivation (9 pages)	043502
Kimmo Kainulainen, Tomislav Prokopec, Michael G. Schmidt, and Steffen Weinstock	
Effect of the galactic halo modeling on the DAMA-NaI annual modulation result: An extended analysis of the data for weakly interacting massive particles with a purely spin-independent coupling (17 pages)	043503
P. Belli, R. Cerulli, N. Fornengo, and S. Scopel	
Big bang nucleosynthesis, matter-antimatter regions, extra relativistic species, and relic gravitational waves (10 pages)	043504
Massimo Giovannini, Elina Keihänen, and Hannu Kurki-Suonio	
Inflatonic solitons in running mass inflation (9 pages)	043505
Kari Enqvist, Shinta Kasuya, and Anupam Mazumdar	
Variable-speed-of-light cosmology and second law of thermodynamics (7 pages)	043506
Donam Youm	
Generalized Chaplygin gas, accelerated expansion, and dark-energy-matter unification (5 pages)	043507
M. C. Bento, O. Bertolami, and A. A. Sen	



Null string evolution in black hole and cosmological spacetimes (10 pages)	043508
Mariusz P. Dąbrowski and Izabela Próchnicka	
Cosmic strings in a braneworld theory with metastable gravitons (8 pages)	043509
Arthur Lue	
Non-Gaussian signatures in the cosmic background radiation from warm inflation (7 pages)	043510
S. Gupta, A. Berera, A. F. Heavens, and S. Matarrese	
Is the universe inflating? Dark energy and the future of the universe (6 pages)	043511
Dragan Huterer, Glenn D. Starkman, and Mark Trodden	
Inhomogeneous big bang nucleosynthesis and mutual ion diffusion (8 pages)	043512
Elina Keihänen	
Primordial black holes in braneworld cosmologies: Formation, cosmological evolution, and evaporation (9 pages)	043513
Raf Guedens, Dominic Clancy, and Andrew R. Liddle	
Inflation and braneworlds: Degeneracies and consistencies (8 pages)	043514
Greg Huey and James E. Lidsey	
Variations of alpha in space and time (6 pages)	043515
John D. Barrow, João Magueijo, and Håvard Bunes Sandvik	
Large lepton asymmetry from Q-balls (8 pages)	043516
M. Kawasaki, Fuminobu Takahashi, and Masahide Yamaguchi	
Dimming of supernovae by photon-pseudoscalar conversion and the intergalactic plasma (6 pages)	043517
Cédric Deffayet, Diego Harari, Jean-Philippe Uzan, and Matias Zaldarriaga	
Shear-free rotating inflation (5 pages)	043518
Yuri N. Obukhov, Thoralf Chrobok, and Mike Scherfner	
Loop corrections to scalar quintessence potentials (7 pages)	043519
Michael Doran and Jörg Jäckel	
Observational test of two-field inflation (6 pages)	043520
David Wands, Nicola Bartolo, Sabino Matarrese, and Antonio Riotto	
Observational constraints on dark radiation in brane cosmology (5 pages)	043521
K. Ichiki, M. Yahiro, T. Kajino, M. Orito, and G. J. Mathews	
Quintessence, superquintessence, and observable quantities in Brans-Dicke and nonminimally coupled theories (13 pages)	043522
Diego F. Torres	
Planck-scale quintessence and the physics of structure formation (15 pages)	043523
Constantinos Skordis and Andreas Albrecht	
Tracking quintessential inflation from brane worlds (7 pages)	043524
N. J. Nunes and E. J. Copeland	
Inflaton condensate fragmentation in hybrid inflation models (8 pages)	043525
John McDonald	
Brane world effective action at low energies and AdS/CFT correspondence (10 pages)	043526
Sugumi Kanno and Jiro Soda	
Braneworld dynamics of inflationary cosmologies with exponential potentials (13 pages)	043527
Naureen Goheer and Peter K. S. Dunsby	
Baryon bias and structure formation in an accelerating universe (5 pages)	043528
Luca Amendola and Domenico Tocchini-Valentini	
Observational determination of squeezing in relic gravitational waves and primordial density perturbations (17 pages)	043529
Sukanta Bose and L. P. Grishchuk	
Aspects of tachyonic inflation with an exponential potential (5 pages)	043530
M. Sami, Pravabati Chingangbam, and Tabish Qureshi	

Big bang nucleosynthesis with Gaussian inhomogeneous neutrino degeneracy (6 pages)	043531
Spencer D. Stirling and Robert J. Scherrer	
Angular momentum and energy-momentum densities as gauge currents (6 pages)	044001
M. Calçada and J. G. Pereira	
Zoom and whirl: Eccentric equatorial orbits around spinning black holes and their evolution under gravitational radiation reaction (33 pages)	044002
Kostas Glampedakis and Daniel Kennefick	
Gauge dependence of the post-Newtonian radiative corrections and effective gravitational field of black holes (5 pages)	044003
Kirill A. Kazakov	
Generalization of the Einstein-Straus model to anisotropic settings (13 pages)	044004
Filipe C. Mena, Reza Tavakol, and Raúl Vera	
Fate of the first traversible wormhole: Black-hole collapse or inflationary expansion (9 pages)	044005
Hisaki Shinkai and Sean A. Hayward	
Thermodynamics of rotating charged black strings and (A)dS/CFT correspondence (6 pages)	044006
M. H. Dehghani	
Is Einstein's equivalence principle valid for a quantum particle? (5 pages)	044007
Andrzej Herdegen and Jarosław Wawrzycki	
Radiative falloff of a scalar field in a weakly curved spacetime without symmetries (17 pages)	044008
Eric Poisson	
Quasinormal modes of a small Schwarzschild-anti-de Sitter black hole (3 pages)	044009
R. A. Konoplya	
Uniqueness of (dilaton) charged black holes and black p -branes in higher dimensions (6 pages)	044010
Gary W. Gibbons, Daisuke Ida, and Tetsuya Shiromizu	
Classical black hole production in high-energy collisions (7 pages)	044011
Douglas M. Eardley and Steven B. Giddings	
(Anti-)de Sitter black holes in higher derivative gravity and dual conformal field theories (8 pages)	044012
Shin'ichi Nojiri and Sergei D. Odintsov	
Dynamics of spherically symmetric spacetimes: Hydrodynamics and radiation (28 pages)	044013
Marcelo Salgado	
Asymptotical AdS space from nonlinear gravitational models with stabilized extra dimensions (9 pages)	044014
U. Günther, P. Moniz, and A. Zhuk	
Perturbations of an exact solution for $(2+1)$ -dimensional critical collapse (4 pages)	044015
David Garfinkle and Carsten Gundlach	
Gauge field localization on Abelian vortices in six dimensions (13 pages)	044016
Massimo Giovannini	
Scattering amplitudes and thermal temperatures of the Schwarzschild-de Sitter black holes (8 pages)	044017
Won Tae Kim, John J. Oh, and Ki Hyuk Yee	
Nonunitary higher derivative gravity classically equivalent to Einstein gravity and its Newtonian limit (13 pages)	044018
Sergio De Filippo and Filippo Maimone	
Gravity wave analogues of black holes (13 pages)	044019
Ralf Schützhold and William G. Unruh	
Time without time: A stochastic clock model (12 pages)	044020
Hans-Thomas Elze and Otavio Schipper	
Jacobi-like bar mode instability of relativistic rotating bodies (11 pages)	044021
Dorota Gondek-Rosińska and Eric Gourgoulhon	
Weak instability in an expanding universe? (7 pages)	045001
Bob Holdom	

Supernova constraint on bulk Majorons (<i>7 pages</i>)	045002
Steen Hannestad, Petteri Keränen, and Francesco Sannino	
Neveu-Schwarz 5-branes in type-IIA supergravity and gravitational anomalies (<i>16 pages</i>)	045003
M. Cariglia and K. Lechner	
Fermions on a vortex ring (<i>8 pages</i>)	045004
Len Pismen and Sergio Rica	
Transport coefficients and ladder summation in hot gauge theories (<i>17 pages</i>)	045005
Manuel A. Valle Basagoiti	
Magnetic catalysis and anisotropic confinement in QCD (<i>9 pages</i>)	045006
V. A. Miransky and I. A. Shovkovy	
Bound state spectrum of the massive Thirring model in a rest frame (<i>6 pages</i>)	045007
Makoto Hiramoto and Takehisa Fujita	
Far-from-equilibrium dynamics with broken symmetries from the $1/N$ expansion of the 2PI effective action (<i>14 pages</i>)	045008
Gert Aarts, Daria Ahrensmeier, Rudolf Baier, Jürgen Berges, and Julien Serreau	
Chirality violation in QCD Reggeon interactions (<i>24 pages</i>)	045009
Alan R. White	
Winding number and non-BPS bound states of walls in nonlinear sigma models (<i>10 pages</i>)	045010
Norisuke Sakai and Ryo Sugisaka	
Transport equation and hard thermal loops in noncommutative Yang-Mills theory (<i>8 pages</i>)	045011
F. T. Brandt, Ashok Das, J. Frenkel, D. G. C. McKeon, and J. C. Taylor	
Metastable strings in Abelian Higgs models embedded in non-Abelian theories: Calculating the decay rate (<i>17 pages</i>)	045012
M. Shifman and Alexei Yung	
Kinetic terms for 2-forms in four dimensions (<i>17 pages</i>)	045013
J. Fernando Barbero G. and Eduardo J. S. Villaseñor	
D3-brane action in a supergravity background: The fermionic story (<i>12 pages</i>)	045014
Mariana Graña	
Photons and gravitons as Goldstone bosons and the cosmological constant (<i>10 pages</i>)	045015
Per Kraus and E. T. Tomboulis	
First and second order vortex dynamics (<i>10 pages</i>)	045016
Yoonbai Kim and Kimyeong Lee	
Perturbative computation of the gluonic effective action via Polyakov's world-line path integral (<i>13 pages</i>)	045017
S. D. Avramis, A. I. Karanikas, and C. N. Ktorides	
Testing spatial noncommutativity via the Aharonov-Bohm effect (<i>13 pages</i>)	045018
H. Falomir, J. Gamboa, M. Loewe, F. Méndez, and J. C. Rojas	
Light-front formulation of the standard model (<i>19 pages</i>)	045019
Prem P. Srivastava and Stanley J. Brodsky	
Wess-Zumino term for AdS superstring (<i>9 pages</i>)	045020
Machiko Hatsuda and Makoto Sakaguchi	
Low-energy effective action in $\mathcal{N}=2$ super Yang-Mills theories on a non-Abelian background (<i>13 pages</i>) . . .	045021
A. T. Banin, I. L. Buchbinder, and N. G. Pletnev	
Constraints on the variations of the fundamental couplings (<i>13 pages</i>)	045022
Keith A. Olive, Maxim Pospelov, Yong-Zhong Qian, Alain Coc, Michel Cassé, and Elisabeth Vangioni-Flam	
Spectrum of a noncommutative formulation of the $D=11$ supermembrane with winding (<i>7 pages</i>)	045023
M. P. García del Moral and A. Restuccia	
Andreev reflection at the quark-gluon-plasma-color-flavor-locking interface (<i>5 pages</i>)	045024
M. Sadzikowski and M. Tachibana	

Softly broken supersymmetric desert from orbifold compactification (<i>10 pages</i>)	045025
Riccardo Barbieri, Lawrence J. Hall, and Yasunori Nomura	
Energy density in the Casimir effect (<i>8 pages</i>)	045026
V. Sopova and L. H. Ford	
Propagators in noncommutative instantons (<i>14 pages</i>)	045027
Bum-Hoon Lee and Hyun Seok Yang	
O(4) texture with a cosmological constant (<i>8 pages</i>)	045028
Inyong Cho	
Radion stabilization in compact hyperbolic extra dimensions (<i>7 pages</i>)	045029
Salah Nasri, Pedro J. Silva, Glenn D. Starkman, and Mark Trodden	
Systematic study of the radion in the compact Randall-Sundrum model (<i>13 pages</i>)	045030
Ashok Das and Alexander Mitov	
Covariantly quantized spinning particle and its possible connection to noncommutative space-time (<i>9 pages</i>)	045031
Subir Ghosh	
Chiral phase transition in dissipative dynamics (<i>16 pages</i>)	045032
G. Holzwarth and J. Klomfass	
Thermal energy of a scalar field in a one-dimensional compact space (<i>6 pages</i>)	045033
E. Elizalde and A. C. Tort	
Twisting E_8 five-branes (<i>18 pages</i>)	046001
Arjan Keurentjes and Savdeep Sethi	
Penrose limit, spontaneous symmetry breaking, and holography in a pp -wave background (<i>11 pages</i>)	046002
Sumit R. Das, Cesar Gomez, and Soo-Jong Rey	
String and brane models with spontaneously or dynamically induced tension (<i>13 pages</i>)	046003
E. I. Guendelman, A. Kaganovich, E. Nissimov, and S. Pacheva	
pp waves and holography (<i>5 pages</i>)	046004
Robert G. Leigh, Kazumi Okuyama, and Moshe Rozali	
Density perturbations in the ekpyrotic scenario (<i>14 pages</i>)	046005
Justin Khoury, Burt A. Ovrut, Paul J. Steinhardt, and Neil Turok	
Extension of boundary string field theory on disc and RP^2 worldsheet geometries (<i>10 pages</i>)	046006
H. Itoyama and S. Nakamura	
Violations of the equivalence principle in a dilaton-runaway scenario (<i>15 pages</i>)	046007
T. Damour, F. Piazza, and G. Veneziano	

BRIEF REPORTS

Activated sphalerons and large extra dimensions (<i>4 pages</i>)	047301
Tomohiro Matsuda	
Clustering of dark energy (<i>3 pages</i>)	047302
F. G. Alvarenga, J. C. Fabris, S. V. B. Gonçalves, and G. Tadaiesky	
Fundamental time asymmetry from nontrivial space topology (<i>4 pages</i>)	047701
F. R. Klinkhamer	
Photon-axion oscillations and type Ia supernovae (<i>4 pages</i>)	047702
Edvard Mörtzell, Lars Bergström, and Ariel Goobar	

ERRATA

Erratum: Thermal and quantum fluctuations around domain walls [Phys. Rev. D 65 , 065021 (2002)] (<i>1 page</i>)	049901(E)
Carlos A. A. de Carvalho	

CONTENTS - *Continued*

PHYSICAL REVIEW D

THIRD SERIES, VOLUME 66, NUMBER 4

15 AUGUST 2002

Erratum: Integro-differential equation for brane-world cosmological perturbations [Phys. Rev. D 64 , 064006 (2001)] (<i>1 page</i>)	049902(E)
Shinji Mukohyama	
Cumulative Author Index	i