

PHYSICAL REVIEW D

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 1550-7998)

PERIODICALS
Postmaster send address changes to:
PHYSICAL REVIEW D
APS Subscription Services
Suite 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 76, NUMBER 2

CONTENTS

D15 JULY 2007

Physical Review D Editorial Policies and Practices	iii
Physical Review D Information for Contributors	vii

RAPID COMMUNICATIONS

Equilibrium configurations of two charged masses in general relativity (<i>4 pages</i>)	021501(R)
G. A. Alekseev and V. A. Belinski	

ARTICLES

First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds (<i>17 pages</i>)	022001
B. Abbott <i>et al.</i> (LIGO Scientific Collaboration and ALLEGRO Collaboration)	
Utility investigation of artificial time delay in displacement-noise-free interferometers (<i>9 pages</i>)	022002
Kentaro Somiya, Yanbei Chen, Keisuke Goda, and Eugeniy E. Mikhailov	
Premerger localization of gravitational-wave standard sirens with LISA: Harmonic mode decomposition (<i>30 pages</i>)	022003
Bence Kocsis, Zoltán Haiman, Kristen Menou, and Zsolt Frei	
Signatures of axionlike particles in the spectra of TeV gamma-ray sources (<i>7 pages</i>)	023001
Alessandro Mirizzi, Georg G. Raffelt, and Pasquale D. Serpico	
Time asymptotics in cosmological hydrodynamics (<i>5 pages</i>)	023002
Manuel Núñez	
Cosmology with moving dark energy and the CMB quadrupole (<i>14 pages</i>)	023003
José Beltrán Jiménez and Antonio L. Maroto	
White dwarf stars in D dimensions (<i>21 pages</i>)	023004
P.-H. Chavanis	
Cosmological perturbations in elastic dark energy models (<i>23 pages</i>)	023005
Richard A. Battye and Adam Moss	
Effective actions for heterotic M theory (<i>10 pages</i>)	023501
Jean-Luc Lehners, Paul McFadden, and Neil Turok	
Constraints on holographic dark energy from the latest supernovae, galaxy clustering, and cosmic microwave background anisotropy observations (<i>8 pages</i>)	023502
Xin Zhang and Feng-Quan Wu	
New constraints on oscillations in the primordial spectrum of inflationary perturbations (<i>14 pages</i>)	023503
Jan Hamann, Laura Covi, Alessandro Melchiorri, and Anže Slosar	
Optimizing future imaging survey of galaxies to confront dark energy and modified gravity models (<i>10 pages</i>)	023504
Kazuhiro Yamamoto, David Parkinson, Takashi Hamana, Robert C. Nichol, and Yasushi Suto	
Does the second caustic ring of dark matter cause the Monoceros Ring of stars? (<i>12 pages</i>)	023505
A. Natarajan and P. Sikivie	
Scalar and vector perturbations in quantum cosmological backgrounds (<i>21 pages</i>)	023506
Emanuel J. Pinho and Nelson Pinto-Neto	



Copyright 2007 by The American Physical Society

(Continued)



1550-7998(20070715)76:2;1-N

CONTENTS - Continued

PHYSICAL REVIEW D

THIRD SERIES, VOLUME 76, NUMBER 2

D15 JULY 2007

Constraints on a new post-general relativity cosmological parameter (10 pages)	023507
Robert Caldwell, Asantha Cooray, and Alessandro Melchiorri	
Probing the coupling between dark components of the universe (9 pages)	023508
Zong-Kuan Guo, Nobuyoshi Ohta, and Shinji Tsujikawa	
IR inflation from multiple branes (24 pages)	023509
Steven Thomas and John Ward	
Thermal fluctuations in loop cosmology (10 pages)	023510
João Magueijo and Parampreet Singh	
Coupled variations of fundamental couplings and primordial nucleosynthesis (12 pages)	023511
Alain Coc, Nelson J. Nunes, Keith A. Olive, Jean-Philippe Uzan, and Elisabeth Vangioni	
Flavor-dependent type II leptogenesis (10 pages)	023512
Stefan Antusch	
Damped corrections to inflationary spectra from a fluctuating cutoff (9 pages)	023513
David Campo, Jens Niemeyer, and Renaud Parentani	
Matter density perturbations and effective gravitational constant in modified gravity models of dark energy (11 pages)	023514
Shinji Tsujikawa	
Deep connection between thermodynamics and gravity in Gauss-Bonnet braneworlds (5 pages)	023515
Ahmad Sheykhi, Bin Wang, and Rong-Gen Cai	
Warped leptogenesis with Dirac neutrino masses (6 pages)	023516
Tony Gherghetta, Kenji Kadota, and Masahide Yamaguchi	
Impact of astrophysical processes on the gamma-ray background from dark matter annihilations (11 pages)	023517
Eun-Joo Ahn, Gianfranco Bertone, David Merritt, and Pengjie Zhang	
Periodic gravitational waves from small cosmic string loops (8 pages)	024001
Florian Dubath and Jorge V. Rocha	
Constraints on $f(R)$ cosmology in the Palatini formalism (9 pages)	024002
Baojiu Li, K. C. Chan, and M.-C. Chu	
Numerical simulations of gravitational collapse in Einstein-aether theory (9 pages)	024003
David Garfinkle, Christopher Eling, and Ted Jacobson	
High-order gauge-invariant perturbations of a spherical spacetime (12 pages)	024004
David Brizuela, José M. Martín-García, and Guillermo A. Mena Marugán	
Observation of incipient black holes and the information loss problem (15 pages)	024005
Tanmay Vachaspati, Dejan Stojkovic, and Lawrence M. Krauss	
Black hole entanglement entropy regularized in a freely falling frame (14 pages)	024006
Ted Jacobson and Renaud Parentani	
Behavior of $f(R)$ gravity in the solar system, galaxies, and clusters (6 pages)	024007
Pengjie Zhang	
Black-hole puncture initial data with realistic gravitational wave content (13 pages)	024008
B.J. Kelly, W. Tichy, M. Campanelli, and B.F. Whiting	
Does a black hole rotate in Chern-Simons modified gravity? (5 pages)	024009
Kohkichi Konno, Toyoki Matsuyama, and Satoshi Tanda	
Unconventional stringlike singularities in flat spacetime (10 pages)	024010
S. Krasnikov	
Ricci flat black holes and Hawking-Page phase transition in Gauss-Bonnet gravity and dilaton gravity (9 pages)	024011
Rong-Gen Cai, Sang Pyo Kim, and Bin Wang	
Gravitational instability of static spherically symmetric Einstein-Gauss-Bonnet black holes in five and six dimensions (6 pages)	024012
Martín Beroiz, Gustavo Dotti, and Reinaldo J. Gleiser	
Backreaction in trans-Planckian cosmology: Renormalization, trace anomaly, and self-consistent solutions (14 pages)	024013
D. López Nacir and F.D. Mazzitelli	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW D

THIRD SERIES, VOLUME 76, NUMBER 2

D15 JULY 2007

Energy-minimizing two black holes initial data (13 pages)	024014
Jacek Jezierski, Jerzy Kijowski, and Szymon Łęski	
Truly naked spherically symmetric and distorted black holes (8 pages)	024015
O.B. Zaslavskii	
Wormholes as black hole foils (8 pages)	024016
Thibault Damour and Sergey N. Solodukhin	
Dynamics of the early universe and the initial conditions for inflation in a model with radiation and a Chaplygin gas (11 pages)	024017
G.A. Monerat, G. Oliveira-Neto, E.V. Silva, L.G. Filho, P. Romildo, Jr., J.C. Fabris, R. Fractalossi, S.V. Gonçalves, and F.G. Alvarenga	
Gravitational wave signals from a chaotic system: A point mass with a disk (9 pages)	024018
Kenta Kiuchi, Hiroko Koyama, and Kei-ichi Maeda	
Nonaxisymmetric instability and fragmentation of general relativistic quasitoroidal stars (29 pages)	024019
Burkhard Zink, Nikolaos Stergioulas, Ian Hawke, Christian D. Ott, Erik Schnetter, and Ewald Müller	
Spherically symmetric spacetimes in $f(R)$ gravity theories (12 pages)	024020
Kimmo Kainulainen, Johanna Piilonen, Vappu Reijonen, and Daniel Sunhede	
Stability of Chaplygin gas thin-shell wormholes (8 pages)	024021
Ernesto F. Eiroa and Claudio Simeone	
Cosmology in a supersymmetric model with gauged $B - L$ symmetry (8 pages)	025001
Anjishnu Sarkar and Urjit A. Yajnik	
Nucleon decay in gauge unified models with intersecting $D6$ -branes (56 pages)	025002
M. Chemtob	
Dual oscillators and quantum pendulums: Spectrum and correlators (7 pages)	025003
A.A. Andrianov	
How does Casimir energy fall? (4 pages)	025004
Stephen A. Fulling, Kimball A. Milton, Prachi Parashar, August Romeo, K.V. Shajesh, and Jef Wagner	
Pair production with neutrinos in an intense background magnetic field (13 pages)	025005
Duane A. Dicus, Wayne W. Repko, and Todd M. Tinsley	
Unitarity analysis of a non-Abelian gauge invariant action with a mass (19 pages)	025006
D. Dudal, N. Vandersickel, and H. Verschelde	
Branes and black holes in collision (11 pages)	025007
Antonino Flachi and Takahiro Tanaka	
Relativistic mechanics of Casimir apparatuses in a weak gravitational field (10 pages)	025008
Giuseppe Bimonte, Enrico Calloni, Giampiero Esposito, and Luigi Rosa	
Hard thermal effective action in QCD through the thermal operator (6 pages)	025009
Ashok Das and J. Frenkel	
Orbit-based deformation procedure for two-field models (12 pages)	025010
V.I. Afonso, D. Bazeia, M.A. Leon, L. Losano, and J. Mateos Guilarte	
Singularities of the magnon S matrix (18 pages)	025011
Nick Dorey, Diego M. Hofman, and Juan Maldacena	
Conjecture on the infrared structure of the vacuum Schrödinger wave functional of QCD (11 pages)	025012
John M. Cornwall	
Renormalization group analysis of a Gürsey-model-inspired field theory (6 pages)	025013
M. Hortaçsu and B.C. Lütfüoğlu	
Interacting higher spins and the high energy limit of the bosonic string (9 pages)	025014
Angelos Fotopoulos and Mirian Tsulaia	
Phases of $N = \infty$ QCD-like gauge theories on $S^3 \times S^1$ and nonperturbative orbifold-orientifold equivalences (35 pages)	025015
Mithat Ünsal	
Boundaries and the Casimir effect in noncommutative space-time (7 pages)	025016
R. Casadio, A. Gruppuso, B. Harms, and O. Micu	
String triality, black hole entropy, and Cayley's hyperdeterminant (4 pages)	025017
M.J. Duff	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW D

THIRD SERIES, VOLUME 76, NUMBER 2

D15 JULY 2007

E_7 and the tripartite entanglement of seven qubits (7 pages)	025018
M.J. Duff and S. Ferrara	
Chiral anomaly beyond Lorentz invariance (7 pages)	025019
Paola Arias, H. Falomir, J. Gamboa, F. Mendez, and F.A. Schaposnik	
Criterion for dynamical chiral symmetry breaking (5 pages)	025020
Bithika Jain, Indrajit Mitra, and H.S. Sharatchandra	
Gravitational trapping near domain walls and stable solitons (5 pages)	025021
Eduardo Guendelman and Idan Shilon	
Charge conservation and the equivalence principle in noncommutative spacetime (9 pages)	025022
Youngone Lee	
Photon production from an anisotropic quark-gluon plasma (5 pages)	025023
Björn Schenke and Michael Strickland	
Vacuum Cherenkov radiation in spacelike Maxwell-Chern-Simons theory (12 pages)	025024
C. Kaufhold and F.R. Klinkhamer	
Gauge invariance of the action principle for gauge systems with noncanonical symplectic structures (10 pages)	025025
Vladimir Cuesta, Merced Montesinos, and José David Vergara	
Self-interacting dark matter in the solar system (7 pages)	025026
Avijit K. Ganguly, Pankaj Jain, Subhayan Mandal, and Sarah Stokes	
Viscous hydrodynamics relaxation time from AdS/CFT correspondence (8 pages)	025027
Michał P. Heller and Romuald A. Janik	
Coulomb tunneling for fusion reactions in dense matter: Path integral Monte Carlo versus mean field (13 pages)	025028
A.I. Chugunov, H.E. DeWitt, and D.G. Yakovlev	
Graceful exit from a stringy landscape via MSSM inflation (10 pages)	026001
Rouzbeh Allahverdi, Andrew R. Frey, and Anupam Mazumdar	
Connecting giant magnons to the pp -wave: An interpolating limit of $\text{AdS}_5 \times S^5$ (18 pages)	026002
Juan Maldacena and Ian Swanson	
Geometry and topology of bubble solutions from gauge theory (13 pages)	026003
Heng-Yu Chen, Diego H. Correa, and Guillermo A. Silva	
Orbifolds of permutation type as physical string systems at multiples of $c = 26$. IV. Orientation orbifolds include orientifolds (9 pages)	026004
M.B. Halpern	
Thermal $\mathcal{N} = 4$ supersymmetric Yang-Mills theory as a 2D Coulomb gas (5 pages)	026005
Sean A. Hartnoll and S. Prem Kumar	
Matrix theory for the discrete light-cone quantization of type IIB string theory on the AdS and/or plane-wave background (16 pages)	026006
Mahdi Torabian	

BRIEF REPORTS

Detection of atmospheric muon neutrinos with the IceCube 9-string detector (6 pages)	027101
A. Achterberg <i>et al.</i> (IceCube Collaboration)	
Fate of the universe: Dark energy dilution? (4 pages)	027301
A. de la Macorra	
Circular solution of two unequal mass particles in post-Minkowski approximation (4 pages)	027501
Matthew M. Glenz and Kōji Uryū	
Extra dimensions and Lorentz invariance violation (4 pages)	027502
Viktor Baukh, Alexander Zhuk, and Tina Kahniashvili	
Relationship between Hawking radiation from black holes and spontaneous excitation of atoms (4 pages)	027503
Hongwei Yu and Wenting Zhou	
Dirac-like monopoles in a Lorentz- and CPT -violating electrodynamics (4 pages)	027701
N.M. Barraz, Jr., J.M. Fonseca, W.A. Moura-Melo, and J.A. Helayël-Neto	
Properties of noncommutative axionic electrodynamics (4 pages)	027702
Patricio Gaete and Iván Schmidt	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW D

THIRD SERIES, VOLUME 76, NUMBER 2

D15 JULY 2007

ERRATA

Erratum: Self-induced conversion in dense neutrino gases: Pendulum in flavor space [Phys. Rev. D 74 , 105010 (2006)] (1 page)	029901(E)
Steen Hannestad, Georg G. Raffelt, Günter Sigl, and Yvonne Y. Wong	
Erratum: Gauge coupling unification in six dimensions [Phys. Rev. D 75 , 065009 (2007)] (2 pages)	029902(E)
Hyun Min Lee	
Erratum: False vacuum decay by self-consistent bounces in four dimensions [Phys. Rev. D 75 , 045001 (2007)] (4 pages)	029903(E)
Jürgen Baacke and Nina Kevlishvili	
Erratum: Hawking radiation from dilatonic black holes via anomalies [Phys. Rev. D 75 , 064029 (2007)] (2 pages)	029904(E)
Shuang-Qing Wu	
Publisher's Note: First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds [Phys. Rev. D 76 , 022001 (2007)] (2 pages)	029905(E)
B Abbott <i>et al.</i>	