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 67, NUMBER 7 ***CONTENTS*** **D1 APRIL 2003**

RAPID COMMUNICATIONS

Measuring γ in $B^{\pm}\to K^{\pm}(KK^*)_D$ decays *(4 pages)* . . . . . 071301(R)
Yuval Grossman, Zoltan Ligeti, and Abner Soffer

Top quark mass determination and $O(\alpha_S^5 m)$ correction to the toponium $1S$ energy level *(5 pages)* . . . . . 071501(R)
Y. Kiyo and Y. Sumino

Factorization and end point singularities in heavy-to-light decays *(5 pages)* . . . . . 071502(R)
Christian W. Bauer, Dan Pirjol, and Iain W. Stewart

Next-to-leading order QCD corrections to $pp\to t\bar{t}h$ at the CERN Large Hadron Collider *(5 pages)* . . . . . 071503(R)
S. Dawson, L. H. Orr, L. Reina, and D. Wackeroth

Novel transversity properties in semi-inclusive deep inelastic scattering *(5 pages)* . . . . . 071504(R)
Leonard P. Gamberg, Gary R. Goldstein, and Karo A. Oganessyan

Probing top-color-assisted technicolor from top-charm associated production at the CERN Large Hadron Collider *(4 pages)* . . . . . 071701(R)
Junjie Cao, Zhaohua Xiong, and Jin Min Yang

Signatures of baryogenesis in the minimal supersymmetric standard model *(5 pages)* . . . . . 071702(R)
Hitoshi Murayama and Aaron Pierce

$\eta_c(3654)$ and hyperfine splitting in charmonium *(4 pages)* . . . . . 071901(R)
A. M. Badalian and B. L. G. Bakker

ARTICLES

Measurement of lepton momentum moments in the decay $\bar{B}\to X\ell\bar{\nu}$ and determination of the heavy quark expansion parameters and $|V_{cb}|$ *(10 pages)* 072001
A. H. Mahmood *et al.* (CLEO Collaboration)

Simultaneous measurement of the B^0 meson lifetime and mixing frequency with $B^0\to D^{*-}\ell^+\nu_\ell$ decays *(19 pages)* 072002
B. Aubert *et al.* (BABAR Collaboration)

Energy spectra of atmospheric muons measured with the CAPRICE98 balloon experiment *(15 pages)* 072003
M. Boezio, V. Bonvicini, P. Schiavon, A. Vacchi, N. Zampa, D. Bergström, P. Carlson, T. Francke, P. Hansen, E. Mocchiutti, M. Suffert, M. Hof, J. Kremer, W. Menn, M. Simon, M. Ambriola, R. Bellotti, F. Cafagna, F. Ciacio, M. Circella, C. N. De Marzo, P. Papini, S. Piccardi, P. Spillantini, E. Vannuccini, S. Bartalucci, M. Ricci, M. Casolino, M. P. De Pascale, A. Morselli, P. Picozza, R. Sparvoli, J. W. Mitchell, J. F. Ormes, S. A. Stephens, R. E. Streitmatter, U. Bravar, and S. J. Stochaj

High statistics measurement of K_{e4} decay properties *(14 pages)* 072004
S. Pislak, R. Appel, G. S. Atoyan, B. Bassalleck, D. R. Bergman, N. Cheung, S. Dhawan, H. Do, J. Egger, S. Eilerts, H. Fischer, W. Herold, V. V. Issakov, H. Kaspar, D. E. Kraus, D. M. Lazarus, P. Lichard, J. Lowe, J. Lozano, H. Ma, W. Majid, A. A. Poblaguev, P. Rehak, A. Sher, Aleksey Sher, J. A. Thompson, P. Truöl, and M.E. Zeller

Copyright 2003 by The American Physical Society

(Continued)

0556-2821(20030401)67:7;1_7

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 67, NUMBER 7** **D1 APRIL 2003**

Solar neutrino oscillations and indications of matter effects in the Sun *(6 pages)* 073001
G. L. Fogli, E. Lisi, A. Palazzo, and A. M. Rotunno
Solar neutrino oscillation parameters after first KamLAND results *(10 pages)* 073002
G. L. Fogli, E. Lisi, A. Marrone, D. Montanino, A. Palazzo, and A. M. Rotunno
Kinematical limits on Higgs boson production via gluon fusion in association with jets *(21 pages)* 073003
V. Del Duca, W. Kilgore, C. Oleari, C. Schmidt, and D. Zeppenfeld
Can radiative magnification of mixing angles occur for two-zero neutrino mass matrix textures? *(10 pages)* 073004
Gautam Bhattacharyya, Amitava Raychaudhuri, and Arunansu Sil
Gamma ray bursts as probes of neutrino mass, quantum gravity, and dark energy *(8 pages)* 073005
Sandhya Choubey and S. F. King
Refinements in electroweak contributions to the muon anomalous magnetic moment *(20 pages)* 073006
Andrzej Czarnecki, William J. Marciano, and Arkady Vainshtein
Scalar σ meson effects in radiative ρ^0-meson decays *(5 pages)* 073007
A. Gokalp, S. Solmaz, and O. Yilmaz
Vector meson dominance, chiral loops, σ meson, and ω-ρ mixing in $\omega \to \pi^0\pi^0\gamma$ decay *(6 pages)* 073008
A. Gokalp, A. Kucukarslan, and O. Yilmaz
Radiatively generated ν_e oscillations: General analysis, textures, and models *(8 pages)* 073009
Anjan S. Joshipura and Saurabh D. Rindani
Two-loop neutrino mass generation and its experimental consequences *(11 pages)* 073010
K. S. Babu and C. Macesanu
Neutrino oscillations from relativistic flavor currents *(12 pages)* 073011
Massimo Blasone, Paulo Pires Pachêco, and Hok Wan Chan Tseung
NuTeV anomaly, neutrino mixing, and a heavy Higgs boson *(8 pages)* 073012
Will Loinaz, Naotoshi Okamura, Tatsu Takeuchi, and L. C. R. Wijewardhana
$\eta \to \pi^0\gamma\gamma$ decay within a chiral unitary approach *(9 pages)* 073013
E. Oset, J. R. Peláez, and L. Roca
Power-law wave functions and generalized parton distributions for the pion *(19 pages)* 073014
A. Mukherjee, I. V. Musatov, H. C. Pauli, and A. V. Radyushkin
Bounds on the coupling of the Majoron to light neutrinos from supernova cooling *(15 pages)* 073015
Yasaman Farzan
Fermilab Tevatron run-1 Z boson data and the Collins-Soper-Sterman resummation formalism *(8 pages)* 073016
F. Landry, R. Brock, P. M. Nadolsky, and C.-P. Yuan
Analysis of dynamical corrections to baryon magnetic moments *(14 pages)* 073017
Phuoc Ha and Loyal Durand
Optical activity of neutrinos and antineutrinos *(5 pages)* 073018
Ali Abbasabadi and Wayne W. Repko
Hidden sterile neutrino and the $2+2$ sum rule *(15 pages)* 073019
Heinrich Päs, Liguo Song, and Thomas J. Weiler
Simulation of atmospheric muon and neutrino fluxes with CORSIKA *(18 pages)* 073020
Jürgen Wentz, Iliana M. Brancus, Alexandru Bercuci, Dieter Heck, Jürgen Oehlschläger, Heinigerd Rebel, and Bogdan Vulpescu
Resolved photon contributions to Higgs boson production in $\gamma\gamma$ collisions *(10 pages)* 073021
M. A. Doncheski and Stephen Godfrey
Atmospheric muon and neutrino flux from 3-dimensional simulation *(23 pages)* 073022
Yong Liu, L. Derome, and M. Buénerd
$(g-2)_\mu$ anomaly, Higgs bosons, and heavy neutrinos *(13 pages)* 073023
G. G. Boyarkina and O. M. Boyarkin
Neutrino observatories can characterize cosmic sources and neutrino properties *(8 pages)* 073024
Gabriela Barenboim and Chris Quigg

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 67, NUMBER 7** **D1 APRIL 2003**

Minimal scenarios for leptogenesis and *CP* violation *(17 pages)* 073025
G. C. Branco, R. González Felipe, F. R. Joaquim, I. Masina, M. N. Rebelo, and C. A. Savoy
Hierarchy plus anarchy in quark masses and mixings *(9 pages)* 073026
J. A. Aguilar-Saavedra
SU(4) chiral quark model with configuration mixing *(8 pages)* 074001
Harleen Dahiya and Manmohan Gupta
Extracting the Pomeron-Pomeron cross section from diffractive mass spectra *(9 pages)* 074002
F. O. Durães, F. S. Navarra, and G. Wilk
Graviton-induced bremsstrahlung *(13 pages)* 074003
Erik Dvergsnes, Per Osland, and Nurcan Öztürk
Calculation of vacuum properties from the global color symmetry model *(9 pages)* 074004
Hong-shi Zong, Jia-lun Ping, Hong-ting Yang, Xiao-fu Lü, and Fang Wang
Chiral extrapolation of lattice data for heavy baryons *(11 pages)* 074005
X.-H. Guo and A. W. Thomas
Hadronic τ decay, the renormalization group, analyticity of the polarization operators, and QCD parameters *(11 pages)* 074006
B. V. Geshkenbein
s-wave meson-meson scattering from unitarized $U(3)$ chiral Lagrangians *(9 pages)* 074007
N. Beisert and B. Borasoy
Lepton helicity distributions in the polarized Drell-Yan process *(11 pages)* 074008
Jiro Kodaira and Hiroshi Yokoya
Effect of pre-existing baryon inhomogeneities on the dynamics of the quark-hadron transition *(8 pages)* 074009
Soma Sanyal
Transverse single spin asymmetries in Drell-Yan processes *(10 pages)* 074010
M. Anselmino, U. D'Alesio, and F. Murgia
Selection and reconstruction of the top quarks in the all-hadronic decays at a linear collider *(9 pages)* 074011
S. V. Chekanov and V. L. Morgunov
Unbiased analysis of CLEO data at NLO and the pion distribution amplitude *(16 pages)* 074012
Alexander P. Bakulev, S. V. Mikhailov, and N. G. Stefanis
Final-state phases in $B\to D\pi$, $D^*\pi$, and $D\rho$ decays *(9 pages)* 074013
Cheng-Wei Chiang and Jonathan L. Rosner
DIS structure functions and the double-spin asymmetry in ρ^0 electroproduction within a Regge approach *(9 pages)* 074014
N. I. Kochelev, K. Lipka, W.-D. Nowak, V. Vento, and A. V. Vinnikov
Resummation of transverse momentum and mass logarithms in DIS heavy-quark production *(21 pages)* 074015
P. M. Nadolsky, N. Kidonakis, F. I. Olness, and C.-P. Yuan
Study of the flavor changing neutral current decay mode $B\to K\gamma\gamma$ *(7 pages)* 074016
S. R. Choudhury, G. C. Joshi, Namit Mahajan, and B. H. J. McKellar
Role of higher twist in polarized deep inelastic scattering *(9 pages)* 074017
Elliot Leader, Aleksander V. Sidorov, and Dimiter B. Stamenov
Higgs pair production in the standard model at next generation linear e^+e^- colliders *(4 pages)* 074018
A. Gutiérrez-Rodríguez, M. A. Hernández-Ruíz, and O. A. Sampayo
From deep inelastic scattering to proton-nucleus collisions in the color glass condensate model *(10 pages)* . . 074019
François Gelis and Jamal Jalilian-Marian
Can the mechanism for $\pi_1\to\eta\pi,\eta'\pi$ hybrid decays be detected? *(5 pages)* 074020
Ailin Zhang and T. G. Steele
Spectral quark model and low-energy hadron phenomenology *(26 pages)* 074021
Enrique Ruiz Arriola and Wojciech Broniowski
Infrared renormalons and analyticity structure in perturbative QCD *(5 pages)* 074022
Gorazd Cvetič

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 67, NUMBER 7** **D1 APRIL 2003**

Photoproduction of vector mesons in the soft dipole Pomeron model *(12 pages)* 074023
E. Martynov, E. Predazzi, and A. Prokudin
Compact stars with color superconducting quark matter *(10 pages)* 074024
Mark Alford and Sanjay Reddy
Choice of heavy baryon currents in QCD sum rules *(9 pages)* 074025
Dao-Wei Wang and Ming-Qiu Huang
Towards order α_s^4 accuracy in τ decays *(10 pages)* 074026
P. A. Baikov, K. G. Chetyrkin, and J. H. Kühn
Transparent expression of the A^2 condensate's renormalization *(6 pages)* 074027
Ph. Boucaud, F. De Soto, A. Le Yaouanc, J. P. Leroy, J. Micheli, H. Moutarde, O. Pène, and J. Rodríguez-Quintero
Charge asymmetry in $K^{\pm}\to\pi^{\pm}\gamma\gamma$ induced by the electromagnetic penguin operators *(5 pages)* 074028
Dao-Neng Gao
Forward-backward asymmetry in $K^+\to\pi^+l^+l^-$ *(6 pages)* 074029
Chuan-Hung Chen, C. Q. Geng, and I-Lin Ho
Instability of the hedgehog shape for the octet baryon in the chiral quark soliton model *(10 pages)* 074030
Satoru Akiyama and Yasuhiko Futami
Radiative decays: A new flavor filter *(6 pages)* 074031
F. E. Close, A. Donnachie, and Yu. S. Kalashnikova
Quark number susceptibilities of hot QCD up to $g^6 \ln g$ *(9 pages)* 074032
A. Vuorinen
Threshold effects in excited charmed baryon decays *(6 pages)* 074033
Andrew E. Blechman, Adam F. Falk, Dan Pirjol, and John M. Yelton
Thermal pions at a finite isospin chemical potential *(5 pages)* 074034
Marcelo Loewe and Cristián Villavicencio
The photon spectrum in Υ decays *(16 pages)* 074035
Sean Fleming and Adam K. Leibovich
D-meson production from recombination in hadronic collisions *(10 pages)* 074036
R. Rapp and E. V. Shuryak
Threshold effects in charm hadroproduction *(13 pages)* 074037
Nikolaos Kidonakis, Eric Laenen, Sven Moch, and Ramona Vogt
Chiral $1/M^2$ corrections to $B^{(*)}\to D^{(*)}$ at zero recoil in quenched chiral perturbation theory *(8 pages)* 074501
Daniel Arndt
QCD and the η' mass: Instantons or confinement? *(5 pages)* 074502
T. Schäfer
Flavor singlet meson mass in the continuum limit in two-flavor lattice QCD *(8 pages)* 074503
V. I. Lesk, S. Aoki, R. Burkhalter, M. Fukugita, K.-I. Ishikawa, N. Ishizuka, Y. Iwasaki, K. Kanaya, Y. Kuramashi, M. Okawa, Y. Taniguchi, A. Ukawa, T. Umeda, and T. Yoshie (CP-PACS Collaboration)
Gauge problem of monopole dynamics in $SU(2)$ lattice gauge theory *(12 pages)* 074504
Shoichi Ito, Shun-ichi Kitahara, Tae Woong Park, and Tsuneo Suzuki
The Kentucky noisy Monte Carlo algorithm for Wilson dynamical fermions *(16 pages)* 074505
B. Joó, I. Horváth, and K. F. Liu
Minimal scalar sector of 3-3-1 models without exotic electric charges *(10 pages)* 075001
William A. Ponce, Yithsbey Giraldo, and Luis A. Sánchez
Supersymmetric one-family model without Higgsinos *(10 pages)* 075002
Jesús M. Mira, William A. Ponce, Diego A. Restrepo, and Luis A. Sánchez
Hadronic production of light color-triplet Higgs bosons: An alternative signature for grand unified theories *(8 pages)* 075003
Kingman Cheung and Gi-Chol Cho

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 67, NUMBER 7** **D1 APRIL 2003**

Updated implications of the muon anomalous magnetic moment for supersymmetry *(11 pages)* 075004
Mark Byrne, Christopher Kolda, and Jason E. Lennon

B_d^0-$\overline{B}_d^0$ mixing and the $B_d \to J/\psi K_S$ asymmetry in the left-right supersymmetric model *(11 pages)* 075005
Mariana Frank and Shuquan Nie

Complete next-to-leading order QCD corrections to charged Higgs boson associated production with a top quark at the CERN Large Hadron Collider *(13 pages)* 075006
Shou-Hua Zhu

Neutrino democracy, fermion mass hierarchies, and proton decay from 5D SU(5) *(5 pages)* 075007
Qaisar Shafi and Zurab Tavartkiladze

Flavor changing neutral Higgs boson decays from squark-gluino loops *(17 pages)* 075008
Ana M. Curiel, María J. Herrero, and David Temes

Primordial nucleosynthesis constraints on Z' properties *(12 pages)* 075009
Vernon Barger, Paul Langacker, and Hye-Sung Lee

Limits on the brane fluctuations mass and on the brane tension scale from electron-positron colliders *(18 pages)* 075010
J. Alcaraz, J. A. R. Cembranos, A. Dobado, and A. L. Maroto

Phenomenology of lepton flavor violation in two Higgs doublet model type III from $(g-2)_\mu$ and leptonic decays *(7 pages)* 075011
Rodolfo A. Diaz, R. Martinez, and J.-Alexis Rodriguez

Extra dimensions and invisible decay of orthopositronium *(3 pages)* 075012
S. N. Gninenko, N. V. Krasnikov, and A. Rubbia

Neutrino mixing and large CP violation in B physics *(7 pages)* 075013
Darwin Chang, Antonio Masiero, and Hitoshi Murayama

Unitarity and higher-order corrections in neutralino dark matter annihilation into two photons *(11 pages)* 075014
Junji Hisano, Sh. Matsumoto, and Mihoko M. Nojiri

Neutrino mass, proton decay, and dark matter in TeV scale universal extra dimension models *(13 pages)* 075015
R. N. Mohapatra and A. Pérez-Lorenzana

$b \to s$ transitions: A new frontier for indirect supersymmetry searches *(12 pages)* 075016
M. Ciuchini, E. Franco, A. Masiero, and L. Silvestrini

Probe of the radion-Higgs mixing in the Randall-Sundrum model at e^+e^- colliders *(6 pages)* 075017
Kingman Cheung, C. S. Kim, and Jeonghyeon Song

Finite theories and the supersymmetry flavor problem *(9 pages)* 075018
K. S. Babu, Tatsuo Kobayashi, and Jisuke Kubo

CP-conserving two-Higgs-doublet model: The approach to the decoupling limit *(26 pages)* 075019
John F. Gunion and Howard E. Haber

Soft supersymmetry breaking masses in a unified model with doublet-triplet splitting *(7 pages)* 075020
Daijiro Suematsu

Warped supersymmetric grand unification *(20 pages)* 075021
Walter D. Goldberger, Yasunori Nomura, and David R. Smith

Pairs of charged heavy fermions from an $SU(3)_L \otimes U(1)_N$ model at e^+e^- colliders *(8 pages)* 075022
J. E. Cieza Montalvo and M. D. Tonasse

DGLAP evolution extends the triple pole Pomeron fit *(8 pages)* 076001
G. Soyez

Massless three-dimensional QED with explicit fermions *(7 pages)* 076002
Dean Lee and Pieter Maris

Perturbation theory for bound states and resonances where potentials and propagators have arbitrary energy dependence *(8 pages)* 076003
A. N. Kvinikhidze and B. Blankleider

Fermions on the light front transverse lattice *(15 pages)* 076004
Dipankar Chakrabarti, Asit K. De, and A. Harindranath

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 67, NUMBER 7** **D1 APRIL 2003**

Dynamical mass generation for fermions in quenched quantum electrodynamics at finite temperature *(8 pages)* 076005
Alejandro Ayala and Adnan Bashir
Lepton flavor violation and the origin of the seesaw mechanism *(11 pages)* 076006
K. S. Babu, B. Dutta, and R. N. Mohapatra
Signatures of nucleon disappearance in large underground detectors *(10 pages)* 076007
Yuri Kamyshkov and Edwin Kolbe
Spin structure of the nucleon at low energies *(21 pages)* 076008
Véronique Bernard, Thomas R. Hemmert, and Ulf-G. Meißner
$S=-1$ meson-baryon unitarized coupled channel chiral perturbation theory and the S_{01} resonances $\Lambda(1405)$ and $-\Lambda(1670)$ *(14 pages)* 076009
C. García-Recio, J. Nieves, E. Ruiz Arriola, and M. J. Vicente Vacas
Strong tree level unitarity violations in the extra dimensional standard model with scalars in the bulk *(9 pages)* 076010
Stefania De Curtis, Daniele Dominici, and José R. Pelaez

BRIEF REPORTS

Hierarchy and up-down parallelism of quark mass matrices *(4 pages)* 077301
Jian-wei Mei and Zhi-zhong Xing
Heisenberg's universal $\ln^2 s$ increase of total cross sections *(4 pages)* 077501
H. G. Dosch, P. Gauron, and B. Nicolescu
Higher twists in the pion structure function *(4 pages)* 077502
W. Melnitchouk
Analysis of an unstable particle with the maximum entropy method in $O(4)$ ϕ^4 theory on the lattice *(4 pages)* 077503
T. Yamazaki and N. Ishizuka
Diffractive production of dijets by double Pomeron exchange processes *(4 pages)* 077504
R. J. M. Covolan and M. S. Soares

Cumulative Author Index i