PHYSICAL REVIEW D

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

PERIODICALS
Postmaster send address changes to:
PHYSICAL REVIEW D
APS Subscription Services
Suite 1NO1
2 Huntington Quadrangle
Melville, NY 11747-4502

THIRD SERIES, VOLUME 69, NUMBER 9 *CONTENTS* **D1 MAY 2004**

RAPID COMMUNICATIONS

Supersymmetry tests from a combined analysis of a chargino and charged Higgs boson pair production at a 1 TeV linear collider *(4 pages)* . . . . . 091301(R)
M. Beccaria, H. Eberl, F. M. Renard, and C. Verzegnassi

Sivers mechanism for gluons *(4 pages)* . . . . . 091501(R)
Matthias Burkardt

Connecting lattice QCD with chiral perturbation theory at strong coupling *(5 pages)* . . . . . 091502(R)
Shailesh Chandrasekharan and Costas G. Strouthos

Search for the decay $B^0 \to p\bar{p}$ *(7 pages)* . . . . . 091503(R)
B. Aubert *et al.* (BABAR Collaboration)

ARTICLES

Determination of $\mathcal{B}(\chi_{cJ} \to p\bar{p})$ in $\psi(2S)$ decays *(6 pages)* 092001
J. Z. Bai *et al.* (BES Collaboration)

Quark mass textures and $\sin 2\beta$ *(10 pages)* 092002
Hyung Do Kim, Stuart Raby, and Leslie Schradin

Universal texture of quark and lepton mass matrices with an extended flavor $2 \leftrightarrow 3$ symmetry *(9 pages)* 093001
Yoshio Koide

Neutrino masses in *R*-parity violating supersymmetric models *(10 pages)* 093002
Yuval Grossman and Subhendu Rakshit

Predictions for $g-2$ of the muon and $\alpha_{\rm QED}(M_Z^2)$ *(40 pages)* 093003
K. Hagiwara, A. D. Martin, Daisuke Nomura, and T. Teubner

QCD corrections to electroweak $\ell \nu_\ell jj$ and $\ell^+ \ell^- jj$ production *(15 pages)* 093004
Carlo Oleari and Dieter Zeppenfeld

Static quantities of the *W* boson in the $SU_L(3) \times U_X(1)$ model with right-handed neutrinos *(11 pages)* 093005
J. L. García-Luna, G. Tavares-Velasco, and J. J. Toscano

Phenomenological tests of supersymmetric A_4 family symmetry model of neutrino mass *(11 pages)* 093006
M. Hirsch, J. C. Romão, S. Skadhauge, J. W. F. Valle, and A. Villanova del Moral

Deviation of atmospheric mixing from maximal and structure in the leptonic flavor sector *(12 pages)* 093007
André de Gouvêa

QCD phenomenology of static sources and gluonic excitations at short distances *(28 pages)* 094001
Gunnar S. Bali and Antonio Pineda

Nonleptonic Λ_b decays to $D_s(2317)$, $D_s(2460)$, and other final states in factorization *(9 pages)* 094002
Alakabha Datta, Harry J. Lipkin, and Patrick J. O'Donnell

Light-cone QCD sum rules for the semileptonic decay $\Lambda_b \to p\ell\bar{\nu}$ *(15 pages)* 094003
Ming-Qiu Huang and Dao-Wei Wang



Copyright 2004 by The American Physical Society



(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 69, NUMBER 9** **D1 MAY 2004**

Generalized parton distributions and composite constituent quarks *(14 pages)* 094004
Sergio Scopetta and Vicente Vento
Higgs-boson production induced by bottom quarks *(11 pages)* 094005
Eduard Boos and Tilman Plehn
Cronin effect and energy conservation constraints in high energy proton-nucleus collisions *(8 pages)* 094006
Enrico Cattaruzza and Daniele Treleani
Covariant light-front approach for $B \to K^* \gamma$, $K_1 \gamma$, $K_2^* \gamma$ decays *(12 pages)* 094007
Hai-Yang Cheng and Chun-Khiang Chua
High-precision QCD at hadron colliders: Electroweak gauge boson rapidity distributions at next-to-next-to leading order *(27 pages)* 094008
Charalampos Anastasiou, Lance Dixon, Kirill Melnikov, and Frank Petriello
Properties of the baryon antidecuplet *(5 pages)* 094009
Yongseok Oh, Hungchong Kim, and Su Houng Lee
Power corrections to the $\pi^0 \gamma$ transition form factor and pion distribution amplitudes *(13 pages)* 094010
S. S. Agaev
Where are the missing members of the baryon antidecuplet? *(5 pages)* 094011
Dmitri Diakonov and Victor Petrov
Splitting strong and electromagnetic interactions in $K_{\ell 4}$ decays *(20 pages)* 094012
A. Nehme
Color dipoles and ρ, ϕ electroproduction *(16 pages)* 094013
J. R. Forshaw, R. Sandapen, and G. Shaw
Exotic states of matter in heavy meson decays *(7 pages)* 094014
Jonathan L. Rosner
Polarization phenomena in open charm photoproduction processes *(15 pages)* 094015
Egle Tomasi-Gustafsson and Michail P. Rekalo
Heavy quarks in deeply virtual Compton scattering *(9 pages)* 094016
Jens D. Noritzsch
Mixing and screening of photons and gluons in a color superconductor *(22 pages)* 094017
Andreas Schmitt, Qun Wang, and Dirk H. Rischke
Nonfactorizable contributions to $B \to D^{(*)} M$ decays *(14 pages)* 094018
Yong-Yeon Keum, T. Kurimoto, Hsiang-nan Li, Cai-Dian Lü, and A. I. Sanda
Charmonium levels near threshold and the narrow state $X(3872) \to \pi^+ \pi^- J/\psi$ *(9 pages)* 094019
Estia J. Eichten, Kenneth Lane, and Chris Quigg
Z^* resonances: Phenomenology and models *(15 pages)* 094020
Byron K. Jennings and Kim Maltman
Elastic and inelastic SU(3)-breaking final-state interactions in B decays to pseudoscalar mesons *(13 pages)* 094021
P. Żenczykowski and P. Łach
Lower bounds on the curvature of the Isgur-Wise function *(11 pages)* 094022
A. Le Yaouanc, L. Oliver, and J.-C. Raynal
Fragmentation functions in supersymmetric QCD and ultrahigh energy cosmic ray spectra produced in top-down models *(16 pages)* 094023
R. Aloisio, V. Berezinsky, and M. Kachelriess
Atmospheric neutrinos can make beauty strange *(15 pages)* 094024
Roni Harnik, Daniel T. Larson, Hitoshi Murayama, and Aaron Pierce
Asymmetric jet correlations in $pp^\uparrow$ scattering *(10 pages)* 094025
Daniël Boer and Werner Vogelsang
Belle $J/\psi + \eta_c$ anomaly and a very light scalar boson *(5 pages)* 094026
Kingman Cheung and Wai-Yee Keung

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 69, NUMBER 9** **D1 MAY 2004**

Inclusive charmonium production via double $c\bar{c}$ in e^+e^- annihilation *(11 pages)* 094027
Kui-Yong Liu, Zhi-Guo He, and Kuang-Ta Chao
Instantons and the spin of the nucleon *(17 pages)* 094028
T. Schäfer and V. Zetocha
Pentaquark Θ^+, constituent quark structures, and prediction of charmed Θ_c^0 and bottomed Θ_b^+ *(6 pages)* . . . 094029
Kingman Cheung
Long-distance contribution to the forward-backward asymmetry in decays $K^+ \to \pi^+ \ell^+ \ell^-$ *(6 pages)* 094030
Dao-Neng Gao
Phase structures of strong coupling lattice QCD with finite baryon and isospin density *(15 pages)* 094501
Yusuke Nishida
Photon propagator in compact $(2+1)$-dimensional QED: The effect of wrapping Dirac strings *(8 pages)* 094502
M. N. Chernodub, E.-M. Ilgenfritz, and A. Schiller
Universality, vortices, and confinement: Modified SO(3) lattice gauge theory at nonzero temperature *(8 pages)* 094503
A. Barresi, G. Burgio, and M. Müller-Preussker
Monopoles in the Abelian Polyakov gauge and projection (in)dependence of the dual superconductor mechanism of confinement *(7 pages)* 094504
M. N. Chernodub
Excited B mesons from the lattice *(7 pages)* 094505
A. M. Green, J. Koponen, C. Michael, C. McNeile, and G. Thompson (UKQCD Collaboration)
Remarks on the multiparameter reweighting method for the study of lattice QCD at nonzero temperature and density *(11 pages)* 094506
Shinji Ejiri
Behavior of charmonium systems after deconfinement *(17 pages)* 094507
Saumen Datta, Frithjof Karsch, Peter Petreczky, and Ines Wetzorke
Determination of the monopole condensate from monopole action in quenched SU(2) QCD *(12 pages)* 094508
M. N. Chernodub, Katsuya Ishiguro, and Tsuneo Suzuki
Real and imaginary chemical potential in 2-color QCD *(6 pages)* 094509
P. Giudice and A. Papa
Topological lumps and Dirac zero modes in SU(3) lattice gauge theory on the torus *(6 pages)* 094510
Christof Gattringer and Rainer Pullirsch
Pion structure from improved lattice QCD: Form factor and charge radius at low masses *(10 pages)* 094511
J. van der Heide, J. H. Koch, and E. Laermann
Heavy quark expansion parameters from lattice NRQCD *(17 pages)* 094512
S. Aoki, M. Fukugita, S. Hashimoto, K.-I. Ishikawa, N. Ishizuka, Y. Iwasaki, K. Kanaya, T. Kaneko, Y. Kuramashi, M. Okawa, N. Tsutsui, A. Ukawa, N. Yamada, and T. Yoshié (JLQCD Collaboration)
Excited nucleons with chirally improved fermions *(12 pages)* 094513
Dirk Brömmel, Peter Crompton, Christof Gattringer, Leonid Ya. Glozman, C. B. Lang, Stefan Schaefer, and Andreas Schäfer (Bern-Graz-Regensburg Collaboration)
Bounds on four-fermion contact interactions induced by string resonances *(8 pages)* 095001
P. Burikham, T. Han, F. Hussain, and D. W. McKay
Mass matrix ansatz and lepton flavor violation in the two-Higgs doublet model-III *(10 pages)* 095002
J. L. Díaz-Cruz, R. Noriega-Papaqui, and A. Rosado
Neutral top-pion and lepton flavor violating processes *(6 pages)* 095003
Chongxing Yue, Dongqi Yu, and Lanjun Liu
Likelihood analysis of the constrained minimal supersymmetric standard model parameter space *(15 pages)* 095004
John Ellis, Keith A. Olive, Yudi Santoso, and Vassilis C. Spanos

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 69, NUMBER 9** **D1 MAY 2004**

Bosonic quartic couplings at CERN LHC *(9 pages)* 095005
O. J. P. Éboli, M. C. Gonzalez-Garcia, and S. M. Lietti
Light grand unified theory triplets and Yukawa splitting *(5 pages)* 095006
Subhendu Rakshit, Guy Raz, Sourov Roy, and Yael Shadmi
Physical renormalization schemes and grand unification *(18 pages)* 095007
Michael Binger and Stanley J. Brodsky
Decay $H^+ \to W^+ \gamma$ in a nonlinear R_ξ gauge *(10 pages)* 095008
J. Hernández-Sánchez, M. A. Pérez, G. Tavares-Velasco, and J. J. Toscano
Scalar sector of the $SU(3)_c \otimes SU(3)_L \otimes U(1)_X$ model *(23 pages)* 095009
Rodolfo A. Diaz, R. Martínez, and F. Ochoa
Supersymmetry breaking in two dimensions: The lattice $N=1$ Wess-Zumino model *(23 pages)* 095010
Matteo Beccaria, Massimo Campostrini, and Alessandra Feo
Fermion masses and mixing in intersecting brane scenarios *(11 pages)* 095011
N. Chamoun, S. Khalil, and E. Lashin
Renormalization in reparametrization invariance *(11 pages)* 096001
Yu-Qi Chen
Electroweak high-energy scattering and the chiral anomaly *(37 pages)* 096002
Alan R. White
Neutralino pair production and three-body decays at e^+e^- linear colliders as probes of *CP* violation in the neutralino system *(5 pages)* 096003
S. Y. Choi
Calculation of the QCD phase diagram at finite temperature, and baryon and isospin chemical potentials *(7 pages)* 096004
A. Barducci, R. Casalbuoni, G. Pettini, and L. Ravagli
Regge residues from Dokshitzer-Gribov-Lipatov-Altarelli-Parisi evolution *(10 pages)* 096005
G. Soyez

BRIEF REPORTS

Meson-meson bound states in a $(2+1)$-dimensional strongly coupled lattice QCD model *(4 pages)* 097501
Paulo A. Faria da Veiga, Michael O'Carroll, and Antônio Francisco Neto
Linking the chiral and deconfinement phase transitions *(4 pages)* 097502
Yoshitaka Hatta and Kenji Fukushima
Hadronic decays of $J/\psi(1^3S_1)$ and $\psi'(2^3S_1)$ through virtual photons *(2 pages)* 097503
Kamal K. Seth
Stability of Dirac sheet configurations *(4 pages)* 097901
E.-M. Ilgenfritz, M. Müller-Preussker, B. V. Martemyanov, and Pierre van Baal

ERRATA

Erratum: Effects of mixing with quark singlets [Phys. Rev. D **67**, 035003 (2003)] *(1 page)* . . . . . 099901(E)
J. A. Aguilar-Saavedra

Cumulative Author Index i