PHYSICAL REVIEW D™

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

PERIODICALS

Postmaster send address changes to:

APS Subscription Services
P.O. Box 41
Annapolis Junction, MD 20701

THIRD SERIES, VOLUME 88, NUMBER 9 *CONTENTS* **D1 NOVEMBER 2013**

RAPID COMMUNICATIONS

Measurement of the cross section for high-p_T hadron production in the scattering of 160-GeV/c muons off nucleons *(8 pages)* ..... 091101(R)
C. Adolph *et al.* (COMPASS Collaboration)

Measurement of the muon charge asymmetry in $p\overline{p} \to W + X \to \mu\nu + X$ events at $\sqrt{s} = 1.96$ TeV *(8 pages)* 091102(R)
V. M. Abazov *et al.* (The D0 Collaboration)

Measurement of the top-quark pair-production cross section in events with two leptons and bottom-quark jets using the full CDF data set *(8 pages)* ..... 091103(R)
T. Aaltonen *et al.* (CDF Collaboration)

Evidence for the suppressed decay $B^- \to DK^-$, $D \to K^+\pi^-\pi^0$ *(7 pages)* ..... 091104(R)
M. Nayak *et al.* (Belle Collaboration)

Constraining neutrino mass from neutrinoless double beta decay *(6 pages)* ..... 091301(R)
P. S. Dev, Srubabati Goswami, Manimala Mitra, and Werner Rodejohann

Two-loop Wess-Zumino model with exact supersymmetry on the lattice *(5 pages)* ..... 091501(R)
Alessandra Feo

Observation of a structure at 1.84 GeV/c^2 in the $3(\pi^+\pi^-)$ mass spectrum in $J/\psi \to \gamma 3(\pi^+\pi^-)$ decays *(6 pages)* ..... 091502(R)
M. Ablikim *et al.* (BESIII Collaboration)

ARTICLES

Studies of W boson plus jets production in $p\overline{p}$ collisions at $\sqrt{s} = 1.96$ TeV *(29 pages)* 092001
V. M. Abazov *et al.* (D0 Collaboration)

Search for the production of ZW and ZZ boson pairs decaying into charged leptons and jets in $p\overline{p}$ collisions at $\sqrt{s} = 1.96$ TeV *(17 pages)* 092002
T. Aaltonen *et al.* (CDF Collaboration)

Measurement of the CP violation parameters in $B^0 \to \pi^+\pi^-$ decays *(11 pages)* 092003
J. Dalseno *et al.* (Belle Collaboration)

Search for a dijet resonance in events with jets and missing transverse energy in $p\overline{p}$ collisions at $\sqrt{s} =$ 1.96 TeV *(9 pages)* 092004
T. Aaltonen *et al.* (CDF Collaboration)

Production of K_S^0, $K^{*\pm}(892)$ and $\phi^0(1020)$ in minimum bias events and K_S^0 and Λ^0 in jets in $p\overline{p}$ collisions at $\sqrt{s} = 1.96$ TeV *(16 pages)* 092005
T. Aaltonen *et al.* (CDF Collaboration)

Observation of the dependence on drift field of scintillation from nuclear recoils in liquid argon *(6 pages)* 092006
T. Alexander, H. O. Back, H. Cao, A. G. Cocco, F. DeJongh, G. Fiorillo, C. Galbiati, L. Grandi, C. Kendziora, W. H. Lippincott, B. Loer, C. Love, L. Manenti, C. J. Martoff, Y. Meng, D. Montanari, P. Mosteiro, D. Olvitt, S. Pordes, H. Qian, B. Rossi, R. Saldanha, W. Tan, J. Tatarowicz, S. Walker, H. Wang, A. W. Watson, S. Westerdale, and J. Yoo (SCENE Collaboration)

Copyright 2013 American Physical Society

(Continued)

1550-7998(20131101)88:9;1-F

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 88, NUMBER 9** **D1 NOVEMBER 2013**

Magnetic focusing in atomic, nuclear, and hadronic processes *(8 pages)* 093001
Yu. A. Simonov

Pion form factor and reactions $e^+e^- \to \omega\pi^0$ and $e^+e^- \to \pi^+\pi^-\pi^+\pi^-$ at energies up to 2–3 GeV in the many-channel approach *(13 pages)* 093002
N. N. Achasov and A. A. Kozhevnikov

On the Veltman condition, the hierarchy problem, and high-scale supersymmetry *(13 pages)* 093003
Isabella Masina and Mariano Quiros

Neutron knockout in neutral-current neutrino-oxygen interactions *(7 pages)* 093004
Artur M. Ankowski and Omar Benhar

Transition from a relativistic constituent-quark model to the quantum-chromodynamical asymptotics: A quantitative description of the pion electromagnetic form factor at intermediate values of the momentum transfer *(7 pages)* 093005
S. V. Troitsky and V. E. Troitsky

Measuring the $t\bar{t}h$ coupling from same-sign dilepton $+2b$ measurements *(9 pages)* 093006
David Curtin, Jamison Galloway, and Jay G. Wacker

Relating neutrino masses and mixings by discrete symmetries *(10 pages)* 093007
D. Hernandez and A. Yu. Smirnov

Multilepton signatures of the Higgs boson through its production in association with a top-quark pair *(6 pages)* 093008
Pankaj Agrawal, Somnath Bandyopadhyay, and Siba Prasad Das

Smallness of θ_{13} and the size of the solar mass splitting: Are they related? *(10 pages)* 093009
Soumita Pramanick and Amitava Raychaudhuri

Natural TeV-scale left-right seesaw mechanism for neutrinos and experimental tests *(15 pages)* 093010
Chang-Hun Lee, P. S. Dev, and R. N. Mohapatra

W-propagator corrections to μ and τ leptonic decays *(5 pages)* 093011
M. Fael, L. Mercolli, and M. Passera

Resonance chiral Lagrangian currents and experimental data for $\tau^- \to \pi^-\pi^-\pi^+\nu_\tau$ *(14 pages)* 093012
I. M. Nugent, T. Przedziński, P. Roig, O. Shekhovtsova, and Z. Wąs

Three-jet production and gluon saturation effects in p-p and p-Pb collisions within high-energy factorization *(14 pages)* 094001
A. van Hameren, P. Kotko, and K. Kutak

Magnetic moments of bottom baryons: Effective mass and screened charge *(9 pages)* 094002
Rohit Dhir, C. S. Kim, and R. C. Verma

Branching ratios and CP violations of $B \to K_0^*(1430)K^*$ decays in the perturbative QCD approach *(13 pages)* 094003
Xin Liu, Zhen-Jun Xiao, and Zhi-Tian Zou

Isospin asymmetries in $B \to (K^*, \rho)\gamma/l^+l^-$ and $B \to Kl^+l^-$ in and beyond the standard model *(37 pages)* 094004
James Lyon and Roman Zwicky

Quark matter under strong magnetic fields in SU(2) NJL-type models: Parameter dependence of the cold dense matter phase diagram *(17 pages)* 094005
Pablo G. Allen and N. N. Scoccola

Entropy production in classical Yang-Mills theory from glasma initial conditions *(13 pages)* 094006
Hideaki Iida, Teiji Kunihiro, Berndt Müller, Akira Ohnishi, Andreas Schäfer, and Toru T. Takahashi

Probing $tt\gamma$ and ttZ couplings at the LHeC *(14 pages)* 094007
Antonio O. Bouzas and F. Larios

Investigating possible decay modes of $Y(4260)$ under $D_1(2420)\overline{D} + c.c.$ molecular state ansatz *(8 pages)* 094008
Gang Li and Xiao-Hai Liu

Recursive prescription for logarithmic jet rate coefficients *(11 pages)* 094009
Erik Gerwick

Handbook of vectorlike quarks: Mixing and single production *(18 pages)* 094010
J. A. Aguilar-Saavedra, R. Benbrik, S. Heinemeyer, and M. Pérez-Victoria

Energy spectrum of bottom- and charmed-flavored mesons from polarized top quark decay $t(\uparrow) \to W^+ + B/D + X$ at $\mathcal{O}(\alpha_s)$ *(9 pages)* 094011
S. Mohammad Moosavi Nejad

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 88, NUMBER 9** **D1 NOVEMBER 2013**

Testing leptoquark models in $\overline{B} \to D^{(*)}\tau\overline{\nu}$ *(17 pages)* 094012
Yasuhito Sakaki, Ryoutaro Watanabe, Minoru Tanaka, and Andrey Tayduganov

Decoherence free B_d and B_s meson systems *(4 pages)* 094013
Ashutosh Kumar Alok and Subhashish Banerjee

Nonleptonic $B_c \to VV$ decays *(11 pages)* 094014
Susmita Kar, P. C. Dash, M. Priyadarsini, Sk. Naimuddin, and N. Barik

Asymptotic regime for hadron-hadron diffractive collisions at ultrahigh energies *(8 pages)* 094015
V. V. Anisovich, V. A. Nikonov, and J. Nyiri

Possible candidate of the 0^+ $s\overline{s}s\overline{s}$ state *(5 pages)* 094016
Bing An Li

Chiral perturbation theory for all-staggered heavy-light mesons *(24 pages)* 094017
Claude Bernard and Javad Komijani

Two-component model of 2D trigger-associated hadron correlations on rapidity space $y_{ta} \times y_{tt}$ derived from 1D p_t spectra for p-p collisions at $\sqrt{s} = 200$ GeV *(16 pages)* 094018
Thomas A. Trainor and Duncan J. Prindle

Elastic pp scattering from the optical point to past the dip: An empirical parametrization from ISR to the LHC *(16 pages)* 094019
D. A. Fagundes, G. Pancheri, A. Grau, S. Pacetti, and Y. N. Srivastava

Newly observed $D_J(3000)^{+,0}$ and $D_J^*(3000)^0$ as $2P$ states in D meson family *(8 pages)* 094020
Yuan Sun, Xiang Liu, and Takayuki Matsuki

Quark number susceptibilities at high temperatures *(9 pages)* 094021
A. Bazavov, H.-T. Ding, P. Hegde, F. Karsch, C. Miao, Swagato Mukherjee, P. Petreczky, C. Schmidt, and A. Velytsky

Dihadron fragmentation functions within the Nambu–Jona-Lasinio–jet model *(11 pages)* 094022
Hrayr H. Matevosyan, Anthony W. Thomas, and Wolfgang Bentz

Lefschetz thimbles and stochastic quantization: Complex actions in the complex plane *(6 pages)* 094501
Gert Aarts

Spectral properties of the Wilson-Dirac operator and random matrix theory *(32 pages)* 094502
Mario Kieburg, Jacobus J. Verbaarschot, and Savvas Zafeiropoulos

New class of variance-reduction techniques using lattice symmetries *(6 pages)* 094503
Thomas Blum, Taku Izubuchi, and Eigo Shintani

Running coupling constant and mass anomalous dimension of six-flavor SU(2) gauge theory *(19 pages)* 094504
M. Hayakawa, K.-I. Ishikawa, S. Takeda, and N. Yamada

Toward the excited isoscalar meson spectrum from lattice QCD *(19 pages)* 094505
Jozef J. Dudek, Robert G. Edwards, Peng Guo, and Christopher E. Thomas (for Hadron Spectrum Collaboration)

Lattice study on quantum-mechanical dynamics of two-color QCD with six light flavors *(21 pages)* 094506
M. Hayakawa, K.-I. Ishikawa, S. Takeda, M. Tomii, and N. Yamada

Moving multichannel systems in a finite volume with application to proton-proton fusion *(14 pages)* 094507
Raúl A. Briceño and Zohreh Davoudi

Finite size scaling study of $N_f = 4$ finite density QCD on the lattice *(23 pages)* 094508
Xiao-Yong Jin, Yoshinobu Kuramashi, Yoshifumi Nakamura, Shinji Takeda, and Akira Ukawa

Supersymmetry with light dark matter confronting the recent CDMS and LHC results *(11 pages)* 095001
Alexandre Arbey, Marco Battaglia, and Farvah Mahmoudi

Vector leptons in the Higgs triplet model *(14 pages)* 095002
Sahar Bahrami and Mariana Frank

Unraveling the physics behind modified Higgs couplings: LHC versus a Higgs factory *(6 pages)* 095003
Steven B. Giddings, Tao Liu, Ian Low, and Eric Mintun

Gravitationally induced dark matter asymmetry and dark nucleon decay *(5 pages)* 095004
Hooman Davoudiasl

Collider signatures of mirror fermions in the framework of a left-right mirror model *(16 pages)* 095005
Shreyashi Chakdar, Kirtiman Ghosh, S. Nandi, and Santosh Kumar Rai

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 88, NUMBER 9** **D1 NOVEMBER 2013**

Higgs couplings in composite models *(13 pages)* 095006
Marc Montull, Francesco Riva, Ennio Salvioni, and Riccardo Torre

Parity doubling structure of nucleon at nonzero density in the holographic mean field theory *(9 pages)* 095007
Bing-Ran He and Masayasu Harada

Nucleon decay via dimension-6 operators in anomalous $U(1)_A$ supersymmetric GUT *(11 pages)* 095008
Nobuhiro Maekawa and Yu Muramatsu

Dark sector mass relations from renormalization group focusing *(8 pages)* 095009
John Kearney and Aaron Pierce

Hydrodynamic approach to QGP instabilities *(8 pages)* 095010
E. Calzetta and J. Peralta-Ramos

Global constraints on lepton-quark contact interactions *(6 pages)* 095011
Jorge de Blas, Mikael Chala, and José Santiago

Randall-Sundrum scenario with a small curvature and Drell-Yan process at the LHC *(10 pages)* 095012
A. V. Kisselev

How conventional measures overestimate electroweak fine-tuning in supersymmetric theory *(18 pages)* 095013
Howard Baer, Vernon Barger, and Dan Mickelson

3-3-1 model with inert scalar triplet *(14 pages)* 095014
P. V. Dong, T. Phong Nguyen, and D. V. Soa

Nonthermal dark matter in string compactifications *(6 pages)* 095015
Rouzbeh Allahverdi, Michele Cicoli, Bhaskar Dutta, and Kuver Sinha

Probe of extra dimensions in $\gamma q \to \gamma q$ at the LHC *(8 pages)* 095016
İ. Şahin, A. A. Billur, S. C. İnan, B. Şahin, M. Köksal, P. Tektaş, E. Alıcı, and R. Yıldırım

Proton stability in low-scale extra-dimensional grand unified theories *(5 pages)* 095017
Mitsuru Kakizaki

Polarized charginos (and top quarks) in scalar top quark decays *(9 pages)* 095018
Ian Low

Sparticle spectroscopy from SO(10) GUT with a unified Higgs sector *(8 pages)* 095019
M. Adeel Ajaib, Ilia Gogoladze, and Qaisar Shafi

Search for the Higgs boson H_2^0 at LHC in 3-3-1 model *(9 pages)* 095020
J. E. Cieza Montalvo, R. J. Gil Ramírez, G. H. Ramírez Ulloa, A. I. Rivasplata Mendoza, and M. D. Tonasse

Dimension four wins the same game as the standard model group *(18 pages)* 096001
H. B. Nielsen

CKM matrix and flavor symmetries *(7 pages)* 096002
Takeshi Araki, Hiroyuki Ishida, Hajime Ishimori, Tatsuo Kobayashi, and Atsushi Ogasahara

Multiple solutions for the fermion mass function in QED3 *(8 pages)* 096003
K. Raya, A. Bashir, S. Hernández-Ortiz, A. Raya, and C. D. Roberts

Quark sector of S_3 models: Classification and comparison with experimental data *(23 pages)* 096004
F. González Canales, A. Mondragón, M. Mondragón, U. J. Saldaña Salazar, and L. Velasco-Sevilla

Light quark pseudoscalar densities and anomaly matrix elements for η and η' mesons *(8 pages)* 096005
Janardan P. Singh

Fermions with Lorentz-violating operators of arbitrary dimension *(30 pages)* 096006
V. Alan Kostelecký and Matthew Mewes

Unitarity and singular backgrounds *(12 pages)* 096007
Nikolaos Brouzakis and Mariano Quiros

Sommerfeld enhancements with vector, scalar, and pseudoscalar force carriers *(10 pages)* 096008
Ze-Peng Liu, Yue-Liang Wu, and Yu-Feng Zhou

Electroweak phase transition in the reduced minimal 3-3-1 model *(10 pages)* 096009
Vo Quoc Phong, Vo Thanh Van, and Hoang Ngoc Long

Remarks on the $U(1)$ axial symmetry and the chiral transition in QCD at finite temperature *(13 pages)* 096010
Enrico Meggiolaro and Alessandro Mordà

Thermodynamic phases and mesonic fluctuations in a chiral nucleon-meson model *(11 pages)* 096011
Matthias Drews, Thomas Hell, Bertram Klein, and Wolfram Weise

(Continued)

PHYSICAL REVIEW D **THIRD SERIES, VOLUME 88, NUMBER 9** **D1 NOVEMBER 2013**

Covariant basis induced by parity for the $(j, 0) \oplus (0, j)$ representation *(15 pages)* 096012
Selim Gómez-Ávila and M. Napsuciale

Gravitational interaction of Higgs boson and weak boson scattering *(7 pages)* 096013
Zhong-Zhi Xianyu, Jing Ren, and Hong-Jian He

Prediction for the decay width of a charged state near the $D_s\overline{D}^*/D_s^*\overline{D}$ threshold *(7 pages)* 096014
Jorgivan M. Dias, Xiang Liu, and Marina Nielsen

BRIEF REPORTS

Higgs boson as a gluon trigger *(5 pages)* 097501
P. Cipriano, S. Dooling, A. Grebenyuk, P. Gunnellini, F. Hautmann, H. Jung, and P. Katsas

Thermodynamics of the quark-gluon plasma in terms of quasiparticles and Polyakov line condensates *(5 pages)* 097502
Lucia Oliva, Paolo Castorina, Vincenzo Greco, and Marco Ruggieri

COMMENTS

Comment on "Bare Higgs mass at Planck scale" *(3 pages)* 098301
D. R. Jones

ERRATA

Erratum: Properties of $D_{s2}^*(2573)$ charmed-strange tensor meson [Phys. Rev. D **88**, 036005 (2013)] *(1 page)* 099901(E)
K. Azizi, H. Sundu, J. Y. Süngü, and N. Yinelek