

LIST OF SCIENTIFIC PUBLICATIONS - 2015

Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences

Laboratory “Theory of Elementary Particles”

1. Ahn, C., **Bozhilov, P.** A HHL 3-point correlation function in the η -deformed $AdS_5 \times S^5$. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 743, Elsevier, 2015, ISSN:03702693, DOI:10.1016/j.physletb.2015.02.032, 121 - 126. SJR:3.2, ISI IF:6.131
2. Aizawa, N., **Dobrev, V.K.** Intertwining Operator Realization of anti de Sitter Holography. Rept. Math. Phys., 75, 2, Elsevier, 2015, ISSN:00344877, DOI:10.1016/S0034-4877(15)30002-1, 179 - 197. SJR:0.387, ISI IF:0.871
3. **Anguelova, L.**, Suranyi, P, Wijewardhana, L.C.R.. De Sitter Space in Gauge/Gravity Duality. Nuclear Physics B, 899, Elsevier, 2015, ISSN:05503213, DOI:10.1016/j.nuclphysb.2015.08.020, 651 - 676. ISI IF:3.929
4. **Anguelova, L.**, Suranyi, P, Wijewardhana, L.C.R.. Toward a Gravity Dual of Glueball Inflation. Bulg. J. Phys., 42, 3, 2015
5. **Christova, E.**, Leader, E.. Tests for Sivers, Boer-Mulders and transversity distributions in difference cross sections in SIDIS. arXiv, 2015
6. **Christova, E.**, Leader, E.. Tests of the extraction of the Sivers, Boer-Mulders, and transversity distributions in SIDIS reactions. Physical Review D - Particles, Fields, Gravitation and Cosmology, 92, 11, American Physical Society, 2015, ISSN:1550-7998, DOI:10.1103/PhysRevD.92.114004, ISI IF:4.691
7. **Christova, E.**, Todorov, I.. Once more on the W -loop contribution to the Higgs decay into two photons. Bulgarian Journal of Physics (arXiv: 1410.7061), 42, 3, 2015, ISSN:1314-2666, 296 - 304
8. **Dobrev, V.K.**, Salom, I.. Positive Energy Unitary Irreducible Representations of the Superalgebras $Sosp(1|2n, R)$ and Character Formulae. Proceedings of the VIII Mathematical Physics Meeting, (Belgrade), SFIN XXVIII (A1), Belgrade Inst. Phys., 2015, ISBN:978-86-82441-43-4, 59 - 81
9. **Dobrev, V.K.** Classification of Conformal Representations Induced from the Maximal Cuspidal Parabolic. Proceedings, QTS-9 & preprint SISSA 52/2015/FISI (October 2015), 2015
10. **Dobrev, V.K.** Invariant Differential Operators for Non-Compact Lie Groups: an Introduction. Bulg. J. Phys., 42, 3, 2015, 236 - 248
11. **Dobrev, V.K.** Invariant Differential Operators for Non-Compact Lie Groups: the $SO^*(12)$ Case. J. Phys.: Conf. Ser., 597, IOP, 2015
12. **Doneva, D. D.**, Yazadjiev, S. S., Kokkotas, K. D.. I-Q relations for rapidly rotating neutron stars in f(R) gravity. Physical Review D, 92, 6, 2015, DOI:10.1103/PhysRevD.92.064015, ISI IF:4.643
13. **Doneva, Daniela D.**, Kokkotas, Kostas D.. Asteroseismology of rapidly rotating neutron stars - an alternative approach. Physical Review D, 92, 12, 2015, DOI:10.1103/PhysRevD.92.124004, ISI IF:4.643

14. Furlan, P., **Petkova, V.B.**. On some 3-point functions in the SW_4 CFT and related braiding matrix. *Journal of High Energy Physics*, 2015, 12, Springer Verlag, 2015, ISSN:1029-8479, DOI:10.1007/JHEP12(2015)079, 1 - 23. ISI IF:6.111
15. **Georgiev, L. S.**. Thermoelectric properties of Coulomb-blockaded fractional quantum Hall islands. *Nuclear Physics B*, 894, Elsevier B.V., 2015, ISSN:0550-3213, DOI:doi:10.1016/j.nuclphysb.2015.02.019, 284 - 306. SJR:2.062, ISI IF:3.929
16. **Georgiev, L. S.**. Thermopower and thermoelectric power factor of Z_k parafermion quantum dots. *Nucl. Phys. B*, 899, Elsevier B.V., 2015, ISSN:0550-3213, DOI:doi:10.1016/j.nuclphysb.2015.07.019, 289 - 311. SJR:2.062, ISI IF:3.929
17. **Gerdjikov, V S, Kyuldjiev, A V**, Todorov, M D. Manakov solitons and effects of external potential wells. *Dynamical Systems and Differential Equations, DCDS Supplement*, 2015, AIMS, 2015, DOI:10.3934/proc.2015.0505, 505 - 514
18. **Gerdjikov, V S**, Todorov, M D, **Kyuldjiev, A**. Polarization effects in modeling soliton interactions of the Manakov model. *AIP Conference Proceedings*, 1684, AIP, 2015, ISSN:0094-243X, DOI:10.1063/1.4934317, SJR:0.15
19. Guendelman, E., Herrera, R., Labrana, P., **Nissimov, E., Pacheva, S.**. Emergent Cosmology, Inflation and Dark Energy. *General Relativity and Gravitation*, 47, 2, Springer, 2015, ISSN:0001-7701, DOI:10.1007/s10714-015-1852-1, ISI IF:1.771
20. **Hadjiivanov, L.**, Todorov, I. Quantum Entanglement. *Bulgarian Journal of Physics*, 42, 2, Heron Press Ltd., Sofia, 2015, ISSN:Print: 1310-0157 Online: 1314-2666, 128 - 142
21. Leader, E., Sidorov, A. V., **Stamenov, D. B.** New analysis concerning the strange quark polarization puzzle. *Phys. Rev. D*, 91, 5, American Physical Society, 2015, ISSN:ISSN 1550 -7998, DOI:http://dx.doi.org/10.1103/PhysRevD.91.054017, ISI IF:4.643
22. **Nedanovski, D.** Superconformal vertex algebras in four dimensions. *Modern Physics Letters A*, 30, 12, World Scientific, 2015, ISSN:02177323, DOI:10.1142/S0217732315500649, SJR:0.56, ISI IF:1.198
23. **Nikolov N.M.**. Operadic Bridge Between Renormalization Theory and Vertex Algebra. : Proceedings of the X International Workshop „Lie Theory and Its Applications in Physics, ed. V. Dobrev, "Springer Proceedings in Mathematics and Statistics", 111, 978-4-431-55284, Springer Proceedings in Mathematics and Statistics, 2015, ISBN:978-4-431-55285-7, ISSN:2194-1009, DOI:10.1007/978-4-431-55285-7_35, 457 - 463. ISI IF:0.405
24. **Nissimov, E., Pacheva, S.**, E.I. Guendelman, M. Vasihoun. A New Venue of Spontaneous Supersymmetry Breaking in Supergravity. 8th MATHEMATICAL PHYSICS MEETING: SUMMER SCHOOL AND CONFERENCE ON MODERN MATHEMATICAL PHYSICS, Belgrade Institute of Physics Press, 2015, ISBN:978-86-82441-43-4, 105 - 115
25. **Nissimov, E., Pacheva, S.**, E.I. Guendelman, R. Herrera, P. Labrana. Stable Emergent Universe - A Creation without Big-Bang. *Astronomische Nachrichten*, 336, WILEY-VCH Verlag, 2015, ISSN:1521-3994, DOI:10.1002/asna.201512221, 810 - 814. ISI IF:0.922
26. **Nissimov, E., Pacheva, S.**, E.I. Guendelman. Dark Energy and Dark Matter From Hidden Symmetry of Gravity Model with a Non-Riemannian Volume Form. *European Physical Journal C*, C75, Springer, 2015, ISSN:1434-6052, DOI:10.1140/epjc/s10052-015-3699-8, 472 - 479. ISI IF:5.084

27. **Nissimov, E., Pacheva, S.,** E.I. Guendelman. Metric-Independent Volume-Forms in Gravity and Cosmology. Bulgarian Journal of Physics, 42, Heron Press Ltd., 2015, ISSN:1310-0157, 249 - 262
28. **Nissimov, E., Pacheva, S.,** E.I. Guendelman. Unification of Inflation and Dark Energy from Spontaneous Breaking of Scale Invariance. 8th MATHEMATICAL PHYSICS MEETING: SUMMER SCHOOL AND CONFERENCE ON MODERN MATHEMATICAL PHYSICS, Belgrade Institute of Physics Press, 2015, ISBN:978-86-82441-43-4, 93 - 103
29. **Nissimov, E., Pacheva, S.,** E.I. Guendelman. Vacuum Structure and Gravitational Bags Produced by Metric-Independent Spacetime Volume-Form Dynamics. International Journal of Modern Physics A, A30, World Scientific, 2015, ISSN:0217-751X, DOI:10.1142/S0217751X1550133X, ISI IF:1.699
30. Staykov, K. V., **Doneva, D. D.,** Yazadjiev, S. S., Kokkotas, K. D.. Gravitational wave asteroseismology of neutron and strange stars in R^2 gravity. Physical Review D, 92, 4, 2015, DOI:10.1103/PhysRevD.92.043009, ISI IF:4.643
31. **Stoilova, N.I.,** Van der Jeugt, J.. Explicit infinite-dimensional representations of the Lie superalgebra $osp(2m + 1|2n)$ and the parastatistics Fock space. J. Phys. A: Math. Theor., 48, 155202, 2015, ISI IF:1.583
32. **Stoimenov, S.** From conformal invariance towards dynamical symmetries of collisionless Boltzmann equation. Symmetry, 7, 3, MDPI, Basel, Switzerland, 2015, ISSN:2073-8994, DOI:10.3390, 1595 - 1612. ISI IF:0.826
33. Todorov, M, **Gerdjikov, V S, Kyuldjiev, A V.** Multisoliton interactions for the Manakov system under composite external potentials. Proceedings of the Estonian Academy of Sciences, 64, 3S, Estonian Academy Publishers, 2015, ISSN:1736-6046, DOI:10.3176/proc.2015.3S.07, 368 - 378. SJR:0.195, ISI IF:0.46
34. Yazadjiev, S. S., **Doneva, D. D.,** Kokkotas, K. D.. Rapidly rotating neutron stars in R -squared gravity. Physical Review D, 91, 8, 2015, DOI:10.1103/PhysRevD.91.084018, ISI IF:4.643

LIST OF SCIENTIFIC PAPERS TO BE PUBLISHED - 2015

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Laboratory "Theory of Elementary Particles"

1. **Bozhilov, P.** Some three-point correlation functions in the eta-deformed $AdS_5 \times S^5$. International Journal of Modern Physics A, 31, 1, World Scientific, 2016, ISSN:Print ISSN: 0217-751X, Online ISSN: 1793-656X, DOI:10.1142/S0217751X15502243, 1550224-1 - 1550224-17. ISI IF:1.699
2. **Damyamov, B. P.** On balanced products of distributions in Colombeau algebra. International journal of Applied Mathematics, to appear: 2015, ISSN:1311-1728
3. **Gerdjikov, V S, Todorov, M D, Kyuldjiev, A V.** Asymptotic behavior of Manakov solitons: Effects of potential wells and humps. Mathematics and Computers in Simulation, 121, Elsevier, 2016, ISSN:0378-4754, DOI:10.1016/j.matcom.2015.10.004, 166 - 178. SJR:0.579, ISI IF:0.949
4. **Hadjiivanov, L., Furlan, P.** "Spread" restricted Young diagrams from a 2D WZNW dynamical quantum group. arXiv:1512.09031 [math-ph], to appear: 2015

5. Leader, E., Sidorov, A. V., **Stamenov, D. B.** Determination of the fragmentation functions from an NLO QCD analysis of the HERMES data on pion multiplicities. , to appear: 2015, ISSN:ISSN 1550 - 7998, ISI IF:4.643
6. **Nissimov, E., Pacheva, S.**, E.I. Guendelman. Cosmology via Metric-Independent Volume-Form Dynamics. Proceedings Karl Schwarzschild Meeting 2015, to appear, Springer, to appear: 2015
7. **Nissimov, E., Pacheva, S.**, E.I. Guendelman. Metric-Independent Spacetime Volume-Forms and Dark Energy/Dark Matter Unification. Springer Series in Mathematics and Statistics, Springer, to appear: 2015, ISSN:2194-1009
8. **Nissimov, E., Pacheva, S.**, E.I. Guendelman. Unified Dark Energy and Dust Dark Matter Dual to Quadratic Purely Kinetic K-Essence. European Physical Journal C, Springer, to appear: 2015, ISSN:1434-6052, ISI IF:5.084
9. **Nissimov, E., Pacheva, S., Stoilov, M.**, E.I. Guendelman. Kruskal-Penrose Formalism for Lightlike Thin-Shell Wormholes. Springer Series in Mathematics and Statistics, Springer, to appear: 2015, ISSN:2194-1009
10. Staykov, Kalin V., **Doneva, Daniela D.**, Yazadjiev, Stoytcho S.. Orbital and epicyclic frequencies around neutron and strange stars in R^2 gravity. The European Physical Journal C, to appear: 2015, ISI IF:5.084
11. **Tonev, D., Goutev N., Georgiev, L.S.** Cyclotron laboratory at INRNE-BAS. Journal of Physics G: Conference Series, IOP Publishing, to appear: 2015