

Steven Duplij (Stepan Douplii) Publications

Books:

1. S. Duplij, Semisupermanifolds and Semigroups, (Second Edition) – 2013, Createspace Publishing: Charleston, 220pp.
2. S. Duplij, W. Siegel, J. Bagger, eds, *Concise Encyclopedia of Supersymmetry and noncommutative structures in mathematics and physics*, Kluwer Academic Publishers, Dordrecht-Boston-London, January 2004, 561 pp. (Second printing Springer Science, Berlin-Heidelberg-New York-Tokyo, April 2005).
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4. S.A. Duplij, Semisupermanifolds and semigroups. - Krok, Kharkov, 2000. - 220 c.
5. S. Duplij, and V. Zima, eds, Supersymmetric Structures in Mathematics and Physics. - UkrNTI, Kiev, 2000. - 262 c.

Articles:

6. S. Duplij, "Formulation of singular theories in a partial Hamiltonian formalism using a new bracket and multi-time dynamics", **International Journal of Geometric Methods in Modern Physics**. - 2015.- V.12. – № 1.- 1550001 (19 pages).
7. S. Duplij, Y. Hong, F. Li, "Uq(sl(m+1))-Module Algebra Structures on the Coordinate Algebra of a Quantum Vector Space", **Journal of Lie Theory**.- V. 25.- 2015, No. 2, 327-361.
8. S. Duplij, E. Di Grezia, G. Esposito, A. Kotvytskiy, "Non-linear constitutive equations for gravitoelectromagnetism", **International Journal of Geometric Methods in Modern Physics**. - 2014.- V.11. – № 1.- 1450004 (10 pages).
9. S. A. Duplij and A. T. Kotvytskiy, "Generalized Interaction In Multigravity", **Theoretical and Mathematical Physics** - 2013. - V.177.- P. 1400-1411.
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11. S. Duplij, Generalized duality, Hamiltonian formalism and new brackets, preprint Los Alamos, **Journal of Mathematical Physics, Analysis, Geometry**, 2014.-V. 10.- №2.- P. 189-220.
12. S. A. Duplij and A. T. Kotvytskiy, "Multigravity And Pauli-Fierz Model", **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2013. - V. 1041.- №2(58).- P. 81–92.

- 13.**S. A. Duplij, "Partial Hamiltonian Formalism, Multi-Time Dynamics And Singular Theories", **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2013. - V. 1059.- №3(59).- P. 10–21, arXiv:1307.5771.
- 14.**S. Duplij and G.Ch. Kurinnoj, Representations, quivers, and their and supersymmetric generalizations, **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2011. - V.969.- № 3(51).- P. 81–93.
- 15.**S. Duplij, Polyadic Systems, Representations And Quantum Groups, **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2012. - V. 1017.- № 3(55).- P. 28–59, arXiv:1308.4060.
- 16.**S. Duplij, S. Sinel'shchikov, *Classification of $U_q(sl_2)$ -module algebra structures on the quantum plane*, **Journal of Mathematical Physics, Analysis, Geometry**, 2010.-V. 6.- №4.- P. 21-46.
- 17.**S. Duplij, S. Sinel'shchikov, *On $U_q(sl_2)$ -actions on the quantum plane*, **Acta Polytechnica**, 2010, V. 4.- P. 21-38.
- 18.**S. Duplij, A new Hamiltonian formalism for singular Lagrangian theories, **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2011. - V.969.- № 3(51).- P. 34–39.
- 19.**S. Duplij, S. Sinel'shchikov, *Quantum enveloping algebras with von Neumann regular Cartan-like generators and the Pierce decomposition*, **Communications in Mathematical Physics**, - 2009. - V. 287. - № 4. - P. 769-785.
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- 24.**S. A. Duplij and A. T. Kotvytskiy, *Coincidence limit and generalized interaction term structure in multigravity*, **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2007. - V. 784, №4(36), p. 67–72.
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- 39.S.A. Duplij, A. T. Kotvytskiy, D.V. Kryuchkov, *Problem of cosmology: dark energy or modified gravity*, in Humboldt-Kolleg "**Philosophy of Science**" September 8-11, 2010, Odessa, Ukraine, P. 15-16.
- 40.S.A. Duplij, G.A. Goldin, V.M. Shtelen, *General nonlinear conformal-invariant electrodynamics*, in "**Modern Group Analysis**", May 25-June 2, 2010, Lulea, Sweden, P. 12-13.
- 41.S. Duplij, On super Cuntz algebras, in "**Quantum electrodynamics and statistical physics**", 2011, KIPT, Kharkov, Ukraine, p. 21.
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- 45.**S. Duplij, A new Hamiltonian formulation of singular theories based on the generalized duality and the Clairaut equation, in “**Statistical Mechanics Conference**”, 2011, Rutgers University, Piscataway, USA, p. 18-24.
- 46.**S.A. Duplij, G.A. Goldin, V.M. Shtelen, Conformally compactified Minkowski space and nonlinear electrodynamics, in “**Geometric Methods In Physics**”, Bialowieza, Poland, June 24 – 30, 2012, p. 14.
- 47.**S.A. Duplij, G.A. Goldin, V.M. Shtelen, “Nonlinear electrodynamics and conformal symmetry”, in “**Group-Theoretical Methods in Physics**”, Tianjin, China, August 20-26, 2012, p.12.
- 48.**S.A. Duplij, G.A. Goldin, V.M. Shtelen, “Nonlinear conformal-invariant electrodynamics in four and six dimensions”, in “**Nonlinear Mathematical Physics: Twenty Years of JNMP**”, Nordfjordeid, Norway, June 4 - June 14, 2013, p.12.
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Nuclear Physics

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Ion beam surface analysis

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