

CURRICULUM VITAE

Steven Duplij

PERSONAL INFORMATION

Passport name: **Stepan Douplii**

Pen/scientific name: **Steven Duplij**

Cyrillic name: **СТЕПАН АНАТОЛЬЕВИЧ ДУПЛИЙ**

Address:

Mathematisches Institut,

Universität Münster

48149 Münster

Germany

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<http://homepages.spa.umn.edu/~duplij>

DEGREES

2002 The academic status of **Senior Research Fellow** is given by Higher Certifying Commission, Kiev, Ukraine

1999 Habilitation Thesis: "*Semigroup Methods in Supersymmetric Theories of Elementary Particles*", Bogolyubov Institute of Theoretical Physics, Kiev, Ukraine,

Doctor Habilitatus in Theoretical Physics

(Doctor of Science in Physics and Mathematics)

1983 Ph.D. Thesis: "*Theoretical Investigation of Hard Processes in QCD*";

1978-1982 Post Graduate Course in Theoretical Physics, Kharkov State University;
PhD (Candidate of Science in Physics and Mathematics); adviser M.P. Rekalov

EDUCATION

1994-1995 Special German Language Course, Goethe Institute, Mannheim, Germany;
Distinguished diploma

1974-1978 Department of Theoretical Physics, Kharkov State University;
The Distinguished Diploma in Theoretical Nuclear Physics - M.Sc.

1973-1976 Special English Language Course, Kharkov State University;
The Distinguished Diploma

1971-1973 Department of Theoretical Radiophysics, Kharkov State University

WORK EXPERIENCE

- 2016** Lecturer in Mathematics, Bochum University of Applied Sciences, Germany
2014-2016 Scientific Researcher at the Mathematisches Institut, Universität Münster, Münster, Germany
2012 Lecturer in Mathematics, Rutgers University, Piscataway, USA
2011-2012 Visiting Fulbright Scholar, Rutgers University, USA
2000-2014 Lead Senior Staff Researcher at the Nuclear Physics Laboratory, Kharkov National University, Kharkov, Ukraine
2000-now CMS collaboration, CERN, Geneva
1997-2000 Senior Staff Researcher at the Nuclear Physics Laboratory, Kharkov National University, Kharkov, Ukraine
1983-1997 Staff Researcher at the Nuclear Physics Laboratory, Kharkov State University, Kharkov, Ukraine
1992-1993 Staff Researcher at the Astronomic Observatory, Kharkov State University, Kharkov, Ukraine
1983-1992 Staff Researcher at the Nuclear Physics Laboratory, Kharkov State University, Kharkov, Ukraine
1978-1983 Half-time Researcher at the Radiophysics Laboratory, Kharkov State University, Kharkov, Ukraine

FELLOWSHIPS & GRANTS

- 2015-2016** European Research Council Grant at University of Münster (Host: J. Cuntz)
2010 Alexander von Humboldt Fellowship at University of Münster (Host: J. Cuntz)
2011-2012 Fulbright Scholar Program at the Rutgers University, Piscataway, USA (Host: G. A. Goldin)
2010 Alexander von Humboldt Fellowship at University of Münster (Host: J. Cuntz)
2008 Alexander von Humboldt Fellowship at University of Köln (Host: M. Zirnbauer)
2007 American Physical Society Travel Grant at John Hopkins University (Host: J. Bagger)
2005-2006 Alexander von Humboldt Fellowship, University of Münster (Host: J. Cuntz)
2004 Simons Foundation Travel Grant (Stony Brook, USA)
2001 Alexander von Humboldt Fellowship at Max-Planck-Institute for Dynamics and Self-Organization, Göttingen (Host: F. Müller-Hoissen)
2001 National Natural Science Foundation of China Grant at Zhejiang University, Hangzhou (Host: Fang Li)
1994-1997 Alexander von Humboldt Fellowship at the Physics Department, University of Kaiserslautern, Kaiserslautern, Germany (Host: W. Rühl)

EDITOR EXPERIENCE

- 1999-2013** Editor of *Kharkov National University Journal* (Vestnik KSU), ser. Nuclei, Particles and Fields
2013-now Editor of *East European Journal of Physics*

Editor-compiler:

S. Duplij, W. Siegel, J. Bagger (Eds.) "*Concise Encyclopedia of Supersymmetry and Noncommutative Structures in Mathematics and Physics*"

Dordrecht-Boston-London: Kluwer Academic Publishers, 2004, 561 pp.

(Second printing Springer Science, Berlin-Heidelberg-New York, April 2005).

S. Duplij, J. Wess (Eds.) "*Noncommutative Structures in Mathematics and Physics*",

Dordrecht-Boston-London: Kluwer Academic Publishers, 2001, 484 pp.

S. Duplij, V. Zima (Eds.) "*Supersymmetric Structures in Mathematics and Physics*",

Kiev, UkrINTI, 2000, 262 pp.

Reviewing:

1998-now Reviewer of *Zentralblatt Mathematik*, Karlsruhe-Berlin, Germany

2005-now Reviewer of *Journal of Zhejiang University. Science*, Hangzhou, China

2007-now Reviewer of *Journal of Mathematical Physics*, AIP, Melville, USA

2010-now Reviewer of *Reports of Mathematical Physics*, Warsaw, Poland

2012-now Reviewer of *Advances in Mathematical Physics*, New York, USA

LECTURE COURSES

Calculus

Elementary Particle Physics

Quantum chromodynamics

Unified theories

Supersymmetry and supergravity

SUPERVISION

5 students received Distinguished M.Sc. Degree in Theoretical Physics

4 PhD students, 1 PhD defended

PROFESSIONAL MEMBERSHIPS

2014 RUSSIAN UNION OF WRITERS (Moscow, Russia)

2008 AMERICAN PHYSICAL SOCIETY (College Park, MD)

2002 ALEXANDER VON HUMBOLDT CLUB Ukraine

1995 AMERICAN MATHEMATICAL SOCIETY (Providence, RJ)

1994 INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS
(Cambridge, MA)

1993 ENGLISH INTERNATIONAL ASSOCIATION (Lund, Sweden)

1993 AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
(Washington, DC)

1992 EUROPEAN PHYSICAL SOCIETY (Geneva, Switzerland)

1999 INTERNATIONAL MATHEMATICAL UNION (IAS, Princeton)

LISTED

WORLD DIRECTORY OF MATHEMATICIANS

MARQUES WHO IS WHO IN AMERICA 2014

CONFERENCE ORGANIZING

2005 June-International Workshop "*Pseudo-Hermitian Hamiltonians in Quantum Physics*" as a member of Advisory Board

2000 September-NATO Advanced Research Workshop "*Noncommutative Structures in Mathematics and Physics*" as a Partner Country Co-Director
(NATO Co-Director: Julius Wess)

CONFERENCE PARTICIPATION

Participated at numerous international conferences, workshops, schools and seminars in USA, Germany, France, UK, Poland, Spain, Czech Republic, Russia, China, Ukraine.

2016 January Workshop "BANACH METHODS IN NONCOMMUTATIVE GEOMETRY" (Münster, Germany)

2015 April Workshop "STRUCTURE AND CLASSIFICATION OF C*-ALGEBRAS" (Münster, Germany)

2015 April Workshop "STRUCTURE AND CLASSIFICATION OF C*-ALGEBRAS" (Münster, Germany)

2014 May Workshop "QUANTUM GROUPS AND OPERATOR ALGEBRAS" (Münster, Germany)

2011 August 3rd International Conference QUANTUM ELECTRODYNAMICS AND STATISTICAL PHYSICS (Kharkov, Ukraine)

2010 June 26th Workshop "FOUNDATIONS AND CONSTRUCTIVE ASPECTS OF QFT" (Münster, Germany)

2010 May ANALYTIC AND ALGEBRAIC METHODS IN PHYSICS VI (Prague, Czech Republic)

2009 October ALGEBRA, GEOMETRY, AND MATHEMATICAL PHYSICS (Bedlewo, Poland)

2009 September THE FOURTH INTERNATIONAL CONFERENCE ON P-ADIC MATHEMATICAL PHYSICS (Hrodna, Belarus)

2009 June SYMMETRY IN NONLINEAR MATHEMATICAL PHYSICS (Kiev, Ukraine)

2009 May ANALYTIC AND ALGEBRAIC METHODS V (Prague, Czech Republic)

2008 December 100th STATISTICAL MECHANICS CONFERENCE (Rutgers, USA)

2008 July SUMMER SCHOOL AND CONFERENCE ON MODERN MATHEMATICAL PHYSICS (Belgrade, Serbia)

2007 May 97th STATISTICAL MECHANICS CONFERENCE (Rutgers, USA)

2004 July-August SIMONS WORKSHOP IN MATHEMATICS AND PHYSICS (Stony Brook, USA)

2001 July XV Max Born Symposium SCHROEDINGER OPERATORS, RANDOM POTENTIALS AND SINGULAR PERTURBATIONS (Wroclaw, Poland)

2000 July INTERNATIONAL CONFERENCE ON SUPERSYMMETRY AND QUANTUM FIELD THEORY 75th Birthday of D. V. Volkov (Kharkov, Ukraine)
1999 July INTERNATIONAL CONFERENCE ON SUPERSYMMETRY AND QUANTUM SYMMETRIES in the memory of V. I. Ogievetsky (Dubna, Russia)
1999 July INTERNATIONAL CONFERENCE STRINGS-99 (Potsdam, Germany)
1999 August INTERNATIONAL CONFERENCE ON QUANTUM GRAVITY AND SUPERSTRINGS (Dubna, Russia)
1998 August INTERNATIONAL CONGRESS OF MATHEMATICIANS (Berlin, Germany)
1997 January INTERNATIONAL SEMINAR ON SUPERSYMMETRY AND QUANTUM FIELD THEORY in memory of D. V. Volkov (Kharkov, Ukraine)
1996 June SUPERSYMMETRY-96 (College Park, MD)
1996 June INTERNATIONAL CONFERENCE ON HIGHER HOMOTOPY STRUCTURES IN MATHEMATICAL PHYSICS (Poughkeepsie, NY)
1995 June CRACOW SCHOOL OF THEORETICAL PHYSICS (Zakopane, Poland)
1995 July INTERNATIONAL CONFERENCE ON GAUGE THEORIES, APPLIED SUPERSYMMETRY AND QUANTUM GRAVITY (Leuven, Belgium)
1995 July EUROPEAN SCHOOL OF GROUP THEORY (Valladolid, Spain)
1994 July INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS (Paris)
1993 June INTERNATIONAL SCHOOL ON THEORETICAL AND MATHEMATICAL PHYSICS (Saint-Francois, Guadeloupe)

VISITS & TALKS (outside FSU)

2016

Jena, Germany (Inst. Math.)-*D. Lenz*

2014

Münster, Germany (Inst. Math.)-*J. Cuntz, W. Werner, R. Wulkenhaar*

Salerno, Italy (Univ. Salerno, Math. Dept.)-*C. Delizia*

2012

Hangzhou, China (Zhejiang Univ.)-*Fang Li*

Davis, USA (UC, Math. Dept.)-*M. Mulase, A. Schwarz*

Riverside, USA (UC, Math. Dept.)-*M. Lapidus*

Honolulu, USA (Univ. Hawaii, Phys. Dept.)-*X. Tata*

Syracuse, USA (Univ. Syracuse, Phys. Dept.)-*K. Wali*

Medford, USA (Tufts Univ., Inst. Cosmology)-*A. Vilenkin*

Boston, USA (NEU, Math. Dept.)-*A. Martsinkovsky*

2011

Chicago, USA (UIC, Math. Dept.)-*L. Kauffman*

Minneapolis, USA (Univ. Minnesota, Phys. Dept.)-*M. Shifman*

Philadelphia, USA (UPenn, Math. Dept.)-*J. Stasheff*

Piscataway, USA (Rutgers, Math. Dept.)-*G.A. Goldin*

Argonne, USA (ANL, HEP Division)-*C. Zachos*

New York, USA (CUNY Graduate Center, Math. Dept.)-*A. Douglas*

2010

Münster, Germany (Inst. Math.)-*J. Cuntz, W. Werner,*

Heidelberg, Germany (Inst. Theor. Phys.)-*G. Wolschin, J. Kupsch,*

Wien, Austria (ESI,Univ.)-*H. Grosse*,
Prague, Czech. Rep. (Inst. Nucl. Phys.,Rez)-*M. Znojil*,
Wien, Austria (Inst. Theor. Phys.,TUW)-*D. Grumiller*,
Padova, Italy (Inst.Nucl.Phys.)-*M. Tonin*,
Naples, Italy (Inst.Phys.)-*G. Esposito*,
Florence, Italy (Inst. Nucl. Phys.)-*R. Casalbuoni*, *L. Lusanna*,
Rome, Italy (Inst. Theor. Phys.)-*M. Bianchi*

2009

Warsaw, Poland (Inst. Math.)-*S. Woronowicz*, *P. Urbanski*,
Lodz, Poland (Univ.)-*B. Broda*,
Wroclaw, Poland (Inst. Theor. Phys.,IFT)-*J. Lukierski*,
Zielona Gora, Poland (Inst. Phys.,IF)-*M. Dudek*,
Szczecin, Poland (Inst. Phys.,IF)-*M. Dabrowski*,
Krakow, Poland (Inst. Phys.,IF)-*H. Arodz*,
Prague, Czech. Rep. (Inst. Math.)-*B. Burgstaller*
Potsdam, Germany (AEI)
Dresden, Germany (Forschungszentrum Dresden-Rossendorf)-*U. Günther*

2008

Piscataway, USA (Rutgers Univ.)-*G. Goldin*,
Medford, USA (Tufts Univ.)-*A. Vilenkin*,
Cambridge, USA (MIT)-*E. Lomon*,
New York, USA (CUNY)-*S. Catto*,
Köln, Germany (Inst. Theor. Phys.)-*M. Zirnbauer*,
Belgrade, Serbia (Inst. Phys.,IF)-*B. Dragovich*,
Nic, Serbia (Inst. Phys.)-*M. Ciric*,
Trieste, Italy (SISSA)-*L. Bonora*, Bielefeld, Germany (Univ.)-*C. Ringel*,
Bonn, Germany (Phys. Inst.)-*V. Rittenberg*

2007

Princeton, USA (Inst.Adv.Study)-*S. Adler*,
Chicago, USA (Univ.Illinois,UIC)-*L. Kauffman*,
Medford, USA (Tufts Univ.)-*A. Vilenkin*,
Cambridge, USA (MIT)-*E. Lomon*,
Baltimore, USA (John Hopkins Univ.)-*J. Bagger*,
Philadelphia, USA (Univ. Penn.)-*J. Stasheff*

2006

Münster, Germany (Inst. Math.)-*J. Cuntz*,
Bielefeld, Germany (Univ.)-*C. Ringel*

2004

Princeton, USA (Inst. Adv. Study)-*S. Adler*,
Baltimore, USA (John Hopkins Univ.)-*J. Bagger*,
Stony Brook, USA (SUNY, YITP)-*W. Siegel*,
Minneapolis, USA (Inst. Theor. Phys.,FTPI-UMN)-*M. Shifman*,
Krakow, Poland (Jagellonian Univ.)

2003

Wroclaw, Poland (Inst. Theor. Phys.,IFT)-*W. Marcinek*, *J. Lukierski*

2001

Göttingen, Germany (ISF)-*F. Müller-Hoissen*,

Hangzhou, China (Zhejiang Univ.)-*F. Li*,
Shanghai, China (Inst. Phys.)-*Y.-L. Xu*,
Wroclaw, Poland (Inst. Theor. Phys., IFT)-*W. Marcinek*, , *J. Lukierski*
Prague, Czech. Rep. (CTU)-*C. Burdik*
Rez, Czech. Rep. (Inst. Nucl. Phys.,NPI)-*M. Znojil*,
Mannheim, Germany (Univ.)-*M.Schlichenmaier*

2000

Warsaw, Poland (Inst. Math.)-*J. Okninski*,
Wroclaw, Poland (Inst. Theor. Phys., IFT) -*W. Marcinek*, *J. Lukierski*

1999 Potsdam, Germany (AI)

1998 Berlin, Germany (HMI)-*W. Von Oertzen*,
Berlin, Germany (Tech. Univ.),
Krakow, Poland (Inst. Nucl. Phys.)

1994-1996

Kaiserslautern, Germany (Univ.)-*W.Rühl*

1994

St.Andrews, UK (Univ.)-*J. Howie*
Orsay, France (Inst. Nucl. Phys.)-*A. Comtet*

1993

München, Germany (Max-Planck-Inst. für Physik)-*J.Wess*,
Lyon, France (Inst. Phys.)
Kaiserslautern, Germany (Univ.)-*W.Rühl*

PUBLICATIONS

More than 100 articles and reports including *Physical Review*, *Journal of Physics*, *Communications in Mathematical Physics*, *Journal of Mathematical Physics*, *Communications in Algebra*, *Semigroup Forum*, *Letters in Mathematical Physics*, *Theoretical and Mathematical Physics*; *Journal of Lie Theory*, *International Journal of Geometric Methods in Modern Physics*, *Linear Algebra and Applications* (full list is on homepage and arxiv.org).

Monograph: S. Duplij "*Semisupermanifolds and semigroups*", Kharkov: Krok, 2000, 220pp. (Second Print by CreateSpace Pubs.: Charleston, 2013, available from Amazon).

RESEARCH INTERESTS

Supersymmetry and semigroups; supermatrix models; superconformal symmetry; super Riemann surfaces; supermanifolds; supersymmetric quantum mechanics; supergravity.

Quantum groups and supergroups; Hopf algebras and Yang-Baxter equation; representations of quantized algebras, polyadic algebras and groups, Cuntz algebras.

Nonlinear methods in (super)electrodynamics, Yang-Mills, gravity and multigravity.

Constrained systems and gauge theories, application of differential equations.

Secondary:

Symmetries of genetic code and DNA sequences; Helicity formalism in quantum chromodynamics; Polarization phenomena in low energy nuclear physics; Rutherford backscattering method in ion implantation; Nonstationary radio noise.

SPECIAL SKILLS

Languages: English (perfect), German (speaking), Russian (native), Ukrainian (native).
Programming: Perl, Mathematica, Maple, LaTeX, BibTeX, HTML
PC platforms: MS-DOS, Windows XP, Windows 2003, Windows Vista, Unix, Linux
PC software: Scientific Work Place, dBase, Adobe products, Microsoft Excel, Word, Photoshop, Dreamweaver, PowerPoint

ADDITIONAL PERSONAL INFORMATION

Date and place of birth: August 29, 1954, Chernyshevsk, Russia.
Citizenship: Ukraine.
Family status: married.
Status: permanent residence in Germany.

MASS MEDIA & SOCIAL LIFE

TV programs and interviews at the Kharkov TV studios (regularly)
Scientific program “Logos” (regular interviews at the Central Kharkov radio station)
Articles about me: in USA (SCOOP USA, Gazette, Library of Congress); in Germany, in Ukrainian press (regularly)
AvH Fellows meetings/workshops at the German Embassy in Ukraine, Kiev (regularly)

LITERARY & MUSICAL ACTIVITY

Writing poetry and short stories

More than 200 publications in USA/UK professional literary magazines (in English).
Poetry books - including
 IN CRY (Mitez, Kharkov, 1996) bilingual English/Russian
 ANGEL (1996), ALIEN (1995), DREAM (1994) (in English);
 REFLEXOES 1993 (in Portuguese)
 DASH-DOTTED (Cambridge, MA, 2012) bilingual English/Russian poetry
(available from Amazon).
 SUPERMANIFOLD OF LIFE (Cambridge, MA, 2014) multilingual poetry and
short prose in 9 languages (available from Amazon).

Playing guitar and composing songs

CD audio albums of songs: BLITZ (Heidelberg, 1995), MOTIFS OF YEARS (Heidelberg, 1996), SUPERMANIFOLD OF LIFE (Houston, 2007)
MC audio album of songs: BLITZ (GEMA, Berlin, 1996)
CD audio album of poems: SUPERMANIFOLD OF LIFE (Kharkov, 2004), professional reading in English by T. Kudryashova.

Live art performances

1994 July INTERNATIONAL CONGRESS OF ARTS AND COMMUNICATIONS (Edinburgh,UK) — poetry reading in English

1994 December SMALL PRESS BOOK FAIR (New York, NY) — poetry reading in English and Russian

1994 December PenRose PUBLISHING Co. (Mystic Island, NJ) — poetry reading in English and Russian

1995 July University of Valladolid Residence (Valladolid, Spain) — poetry reading with own songs to the guitar in English and Russian

1995 July LA CLAVE MUSIC AND POETRY CLUB (Madrid, Spain) — poetry reading with own songs to the guitar in English and Russian with Spanish translation

1995 August SYMPOSIUM OF INTERNATIONAL SOCIETY OF POETS (Washington, D.C.) — poetry reading and performance of literary works

1995 August RAVEN POETRY CLUB (Baltimore, MD) — poetry reading in English

1995 August SECOND CHURCH OF PONCE (Ponce, Puerto Rico) — poetry reading with own songs to the guitar in English and Russian with Spanish translation

1995 August THE LIBRARY OF CONGRESS (Washington, D.C.) — poetry reading with own songs to the guitar (in English and Russian) at the special Russian Table

1995 August ROCK CREEK GALLERY (Washington, D.C.) — poetry reading with own songs to the guitar in English and Russian

1996 June WASHINGTON POETS WORKSHOP'S annual reading (Reston Community Center, Washington, DC) — poetry reading and songs to the guitar in English and Russian

1996 June ALBANY POETRY CLUB (Albany, NY) — poetry reading and songs to the guitar in English and Russian

1996 June MARY PICKFORD THEATER at THE LIBRARY OF CONGRESS (Washington, DC) — poetry reading and songs to the guitar in English and Russian

1996 June RAVEN POETRY CLUB (Baltimore, MD) — songs to the guitar in English

1996 December FEUDENHEIM HARMONIKA CLUB (Mannheim, Germany) — songs to the guitar in Russian

1999 May LITERARY CLUB, Kharkov State University (Kharkov, Ukraine) — poetry reading and songs to the guitar in English and Russian

2003 May LITERARY CLUB (Wroclaw University, Poland) — poetry reading in English and Russian

2007 May MINDPUDDLES GALLERY (Houston,TX) — poetry reading and songs to the guitar in English and Russian

2007 May BOWERY POETRY CLUB (New York, NY) — poetry in English and Russian

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).
3. S. Duplij, and J. Wess, eds, *Noncommutative Structures in Mathematics and Physics*. - Kluwer Academic Publishers, Dordrecht-Boston-London, 2001. - 493 p.
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, "A q-deformed generalization of the Hosszu-Gluskin theorem", **Filomat**.- 2016 V. 30.- №11. -P. 2985-3005.
9. M. L. Walker, S. Duplij, "Cho-Duan-Ge decomposition of QCD in the constraintless Clairaut-type formalism", **Physical Review D**.- 2015.- V. 91, 064022, 10 pp.
10. G. A. Goldin, V. M. Shtelen, S. Duplij, "Conformal symmetry transformations and nonlinear Maxwell equations", 2017, 12p. preprint arXiv:1704.00146.
11. S. Duplij, "Arity shape of polyadic algebraic structures", 2017, 43 p., preprint arXiv:1703.10132.
12. S. Duplij, W. Werner, "Structure of unital 3-fields".- 2015.- arXiv: math.RA, 1505.04393 (Submitted to Communications in Algebra).
13. 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).
14. S. A. Duplij and A. T. Kotvytskiy, "Generalized Interaction In Multigravity", **Theoretical and Mathematical Physics** - 2013. - V.177.- P. 1400-1411.
15. 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.

- 16.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.
- 17.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.
- 18.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.
- 19.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.
- 20.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.
- 21.S. Duplij, S. Sinel'shchikov, *On $U_q(sl_2)$ -actions on the quantum plane*, **Acta Polytechnica**, 2010, V. 4.- P. 21-38.
- 22.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.
- 23.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.
- 24.S. Duplij, S. Sinel'shchikov, *Quantum universal enveloping algebras with idempotents and the Pierce decomposition*, **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2009. - V. 845.- № 1(41).- P. 3–15.
- 25.S.A. Duplij, G.A. Goldin, V.M. Shtelen, *Generalizations of nonlinear and supersymmetric classical electrodynamics*, **J. Physics A: Math. and Gen.** – 2008. – V.41.- P. 304007.
- 26.S.A. Duplij, G.A. Goldin, V.M. Shtelen, Nonlinear supersymmetric classical electrodynamics, **Journal of Kharkov National University**, ser. Nuclei, Particles and Fields. - 2007. - V. 781.- № 3(35).- P. 37–47.
- 27.A. Yu. Berezhnoy and S. Duplij, *Dependence of nucleotide physical properties in water on their placement in codons and determinative degree*, **Biophysical Bull. Kharkov Univ.** 2007. – 18(1), 29-47.
- 28.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.
- 29.S.A.Duplij, I.I.Shapoval, **Quantum computations: fundamentals and algorithms**, Problems Of Atomic Science And Technology (PAST).-2007.-No.3(1).-p.230-235.
- 30.S. A. Duplij, I. I. Shapoval, *Topological Methods In Quantum Computations*, **Journal of Kharkov National University**, ser. "Nuclei, particles and fields". - 2007. - V. 781. - N 3(35). - S. 3–31.
- 31.S.A. Duplij, D.V. Soroka, V.A. Soroka, *A special fermionic generalization of lineal gravity*, **J. Zhejiang Univ. Science.** - 2006. - V. 7A (4) 629-632.
- 32.A. Borowiec, W. Dudek, S. Duplij, *Bi-element representations of ternary groups*, **Communications in Algebra** - 2006 - V. 34 (5), 1651-1670.

- 33.S. Duplij, S. Sinel'shchikov, *Quantum enveloping algebras, von Neumann regularity and the Pierce decomposition*. - In Proceedings of **5th Mathematical Physics Meeting: Summer School in Modern Mathematical Physics**, 6 - 17 July 2008, Belgrade, Ed. B. Dragovich, Z. Rakic, Institute of Physics, Belgrade, 2009, p. 241-265.
- 34.S.A. Duplij, G.A. Goldin, V.M. Shtelen, *Conformal Inversion and Maxwell Field Invariants in Four- and Six-Dimensional Spacetimes*. - In Proceedings of the XXXIInd Workshop on **Geometric Methods in Physics**, (Bialowieza, Poland, July 2013), 2014.
- 35.D. Duplij, S. Duplij, Determinative degree, trianders and physical properties of nucleotides, In: Humboldt-Kolleg "**Actual Science in Ukraine: Humboldt-Club Ukraine General Assembly**", January 11-12, 2008, Kiev, p.8-10.
- 36.S. Duplij, *Analysis of constrained systems using the Clairaut equation*. - In Proceedings of **5th Mathematical Physics Meeting: Summer School in Modern Mathematical Physics**, 6 - 17 July 2008, Belgrade, Ed. B. Dragovich, Z. Rakic, Institute of Physics, Belgrade, 2009, p. 217-225.
- 37.S. Duplij, S. Sinel'shchikov, *All $U_q(sl_2)$ -actions on the quantum plane and their classical limits*, **The Fourth International Conference on p-Adic Mathematical Physics** Hrodna, Belarus, Sept, 2009, p.15-16.
- 38.D. Duplij, S. Duplij, Determinative degree, trianders and physical properties of nucleotides, In: Humboldt-Kolleg "**Actual Science in Ukraine: Humboldt-Club Ukraine General Assembly**", January 11-12, 2008, Kiev, p.8-10.
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19. • Doubly Supersymmetric Approach
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21. • E-String
22. • Even Rule
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28. • Frobenius Supermanifold
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30. • Generalized Superbrane Action Principle
31. • Geometric Engineering
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34. • Gromov-Hausdorff Distance

35. • Gromov-Hausdorff Limit
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