

PUBLICATION LIST

Sergiu I. Vacaru

I. Most relevant articles

- 1) S. Vacaru, Spinor structures and nonlinear connections in vector bundles, generalized Lagrange and Finsler spaces, **J. Math. Phys.** **37** (1996) 508-523
- 2) S. Vacaru, Gauge and Einstein gravity from non-Abelian gauge models on noncommutative spaces, **Phys. Lett. B** **498** (2001) 74-82; arXiv: hep-th/0009163
- 3) S. Vacaru, Parametric nonholonomic frame transforms and exact solutions in gravity, **Int. J. Geom. Meth. Mod. Phys.** **4** (2007) 1285-1334; arXiv: 0704.3986
- 4) S. Vacaru, Nonholonomic Ricci flows: II. Evolution equations and dynamics, **J. Math. Phys.** **49** (2008) 043504 (27 pages); arXiv: math.DG/0702598
- 5) S. Vacaru, Branes and quantization for an A-model complexification of Einstein gravity in almost Kaehler variables, **Int. J. Geom. Meth. Mod. Phys.** **6** (2009) 873-909; arXiv: 0810.4692
- 6) S. Vacaru, Spectral functionals, nonholonomic Dirac operators, and noncommutative Ricci flows, **J. Math. Phys.** **50** (2009) 073503; arXiv: 0806.3814
- 7) S. Vacaru, Einstein gravity as a nonholonomic almost Kaehler geometry, Lagrange-Finsler variables, and deformation quantization, **J. Geom. Phys.** **60** (2010) 1289-1305; arXiv: 0709.3609
- 8) S. Vacaru, Finsler black holes induced by noncommutative anholonomic distributions in Einstein gravity, **Class. Quant. Grav.** **27** (2010) 105003 (19pp); arXiv: 0907.4278
- 9) S. Vacaru, Finsler branes and quantum gravity phenomenology with Lorentz symmetry violations, **Class. Quant. Grav.** **28** (2011) 215991; arXiv: 1008.4912
- 10) S. Vacaru, Covariant renormalizable anisotropic theories and off-diagonal Einstein-Yang-Mills-Higgs solutions, **Europhys. Letters (EPL)** **96** (2011) 50001; arXiv: 1108.2023

II. PhD Thesis

- 11) S. Vacaru, Application of Nearly Autoparallel Maps and Twistor-Gauge Methods in Gravity and Condensed States (Department of Physics, University Alexandru Ioan Cuza, Iași, Romania, 1994)

III. Books and Chapters

Collection of Works:

1) Clifford and Riemann- Finsler Structures in Geometric Mechanics and Gravity, Selected Works, by S. Vacaru, P. Stavrinou, E. Gaburov and D. Gonta. Differential Geometry - Dynamical Systems, Monograph 7 (Geometry Balkan Press, 2006); www.mathem.pub.ro/dgds/mono/va-t.pdf and gr-qc/0508023

Monographs:

2) S. Vacaru and P. Stavrinou: *Spinors and Space-Time Anisotropy* (Athens University Press, Athens, Greece, 2002), 301 pages, gr-qc/0112028

3) S. Vacaru: *Interactions, Strings and Isotopies in Higher Order Anisotropic Superspaces* (Hadronic Press, Palm Harbor, FL, USA, 1998), 450 pages, math-ph/0112065

Textbook:

4) S. Vacaru: *Mathematical Programming; Lectures, Examples and Exercises, Computer Methods with Applications in Economy* (Chisinau, ASE M, 1997), 140 pages

Up-dated and Modified: S. Vacaru, Discrete Optimization (Brock University, 2006)

http://www.brocku.ca/mathematics/math2p72/discr_opt_web.pdf

and S. Vacaru, Discrete Optimization, Home/Laboratory Work (Brock University, 2006)

http://www.brocku.ca/mathematics/math2p72/discr_opt_hwa.pdf

IV. Articles in Extension in Main Stream Scientific Journals and Encyclopedia

(numbered in inverse chronological order)

Encyclopedia:

63) S. Vacaru, BOOK Review of "The Geometry of Higher Order Hamilton Spaces", by R. Miron (Kluwer, 2003), review published in: **Gen. Relativ. Grav.** **37** (2005) 1483-85

62) S. Vacaru: Finsler Superspace (term), in *Concise Encyclopedia of Supersymmetry*, Eds. J. Bagger, S. Duplij and W. Siegel (Kluwer Academic Publishers, 2003)

A. Articles in International Journals and Collections (reviewed; translated)

2012 (for this year, there are provided also some articles accepted to publication)

61) S. Vacaru, Metric Compatible or Noncompatible Finsler-Ricci Flows, accepted to **Int. J. Geom. Meth. Mod. Phys.** **9** (2012); arXiv: 1106.4888

60) S. Vacaru, Modified Dispersion Relations in Horava-Lifshitz Gravity and Finsler Brane Models, accepted to: **Gener. Relat. Grav.**, arXiv: 1010.5457

59) S. Vacaru, Fractional Dynamics from Einstein Gravity, General Solutions, and Black Holes, online: [expected hard form] **Int. J. Theor. Phys.** **51** (2012); arXiv: 1004.0628

2011

58) S. Vacaru, On general solutions in Einstein gravity, **Int. J. Geom. Meth. Mod. Phys.** **8** (2011) 9-21; arXiv: 0909.3949v1 and 1106.4660

57) D. Baleanu and S. Vacaru, Constant curvature coefficients and exact solutions in fractional gravity and geometric mechanics, **Central European Journal of Physics** **9** (2011) 1267-1279; arXiv: 1007.2864

56) D. Baleanu and S. Vacaru, Fractional almost Kaehler-Lagrange geometry, **Nonlinear Dynamics** **64** (2011) 365-373; arXiv: 1006.5535

55) D. Baleanu and S. Vacaru, Fractional curve flows and solitonic hierarchies in gravity and geometric mechanics, **J. Math. Phys.** **52** (2011) 053514; arXiv: 1007.2866

54) D. Baleanu and S. Vacaru, Fedosov quantization of fractional Lagrange spaces, **Int. J. Theor. Phys.** **50** (2011) 233-243; arXiv: 1006.5538

2010

53) S. Vacaru, New classes of off-diagonal cosmological solutions in Einstein gravity, **Int. J. Theor. Phys.** **49** (2010) 2753-2776; arXiv: 1003.0043v1

52) S. Vacaru, Two-connection renormalization and nonholonomic gauge models of Einstein gravity, **Int. J. Geom. Meth. Mod. Phys.** **7** (2010) 713-744; arXiv:0902.0961

51) M. Anastasiei and S. Vacaru, Nonholonomic black ring and solitonic solutions in Finsler and extra dimension gravity theories, **Int. J. Theor. Phys.** **49** (2010) 1788-1804; arXiv: 0906.3811

50) S. Vacaru, Critical remarks on Finsler modifications of gravity and cosmology by Zhe Chang and Xin Li, **Phys. Lett. B** **690** (2010) 224-228; arXiv: 1003.0044v2

49) S. Vacaru, On general solutions in Einstein and high dimensional gravity, **Int. J. Theor. Phys.** **49** (2010) 884-913; arXiv: 0909.3949v4

48) S. Vacaru, Nonholonomic distributions and gauge models of Einstein gravity, **Int. J. Geom. Meth. Mod. Phys.** **7** (2010) 215-246; arXiv: 0902.0911

47) S. Vacaru, Curve flows and solitonic hierarchies generated by Einstein metrics, **Acta Applicandae Mathematicae [ACAP]** **110** (2010) 73-107; arXiv: 0810.0707

2009

46) M. Anastasiei and S. Vacaru, Fedosov quantization of Lagrange-Finsler and Hamilton-Cartan spaces and Einstein gravity lifts on (co) tangent bundles, **J. Math. Phys.** **50** (2009) 013510 (23 pages); arXiv: 0710.3079

45) S. Vacaru, The entropy of Lagrange-Finsler spaces and Ricci flows, **Rep. Math. Phys.** **63** (2009) 95-110; arXiv: math.DG/ 0701621

44) S. Anco and S. Vacaru, Curve flows in Lagrange-Finsler geometry, bi-Hamiltonian structures and solitons, **J. Geom. Phys.** **59** (2009) 79-103; arXiv: math-ph/0609070

43) S. Vacaru, Loop quantum gravity in Ashtekar and Lagrange-Finsler variables and Fedosov quantization of general relativity (**The Icfai University Journal of Physics**) **The IUP Journal of Physics**, Vol. II, No. 4. (2009) 15-58; arXiv: 0801.4942;
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1487523;

42) S. Vacaru, Einstein gravity in almost Kaehler variables and stability of gravity with nonholonomic distributions and nonsymmetric metrics, **Int. J. Theor. Phys.** **48** (2009) 1973-2000; arXiv: 0806.3808

41) S. Vacaru, Nonholonomic Ricci flows, exact solutions in gravity, and symmetric and nonsymmetric metrics, **Int. J. Theor. Phys.** **48** (2009) 579-606; arXiv: 0806.3812

40) S. Vacaru, Nonholonomic Ricci flows and parametric deformations of the solitonic pp-waves and Schwarzschild solutions, **Electronic Journal of Theoretical Physics (EJTP)** **6**, **N21** (2009) 63-93; <http://www.ejtp.com/articles/ejtpv6i21p63.pdf>; arXiv: 0705.0729

39) S. Vacaru, Nonholonomic Ricci flows: exact solutions and gravity, **Electronic Journal of Theoretical Physics (EJTP)** **6**, **N20**, (2009) 27—58;
<http://www.ejtp.com/articles/ejtpv6i20p27.pdf>; arXiv: 0705.0728

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38) S. Vacaru, Einstein gravity, Lagrange-Finsler geometry, and nonsymmetric metrics, **SIGMA**, **4** (2008) 071, 29 pages; arXiv: 0806.3810

37) S. Vacaru, Finsler and Lagrange geometries in Einstein and string gravity, **Int. J. Geom. Meth. Mod. Phys.** **5** (2008) 473-511; arXiv: 0801.4958

36) S. Vacaru, Deformation quantization of nonholonomic almost Kaehler models and Einstein gravity, **Phys. Lett. A** **372** (2008) 2949-2955; arXiv: 0707.1667

35) S. Vacaru and J. F. Gonzalez-Hernandez, Nonlinear connections on gerbes, Clifford-Finsler modules, and the index theorems, **Indian J. Math.** **50** (2008) 573-606; arXiv: math.DG/ 0506437

34) S. Vacaru and M. Visinescu, Nonholonomic Ricci flows and running cosmological constant: 3D Taub-NUT metrics, **Romanian Reports in Physics** **60**, (2008) 251-270; gr-qc/0609086
http://www.infim.ro/rrp/2008_60_2/05-251-270.pdf

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33) S. Vacaru and M. Visinescu, Nonholonomic Ricci flows and running cosmological constant: I. 4D Taub-NUT metrics, **Int. J. Mod. Phys. A** **22** (2007) 1135-1159; arXiv: gr-qc/ 0609085

32) S. Vacaru, Deformation quantization of almost Kaehler models and Lagrange-Finsler spaces, **J. Math. Phys.** **48** (2007) 123509 [14 pages]; arXiv: 0707.1519

31) S. Vacaru, Generalized Lagrange transforms: Finsler geometry methods and deformation quantization of gravity, **An. St. Univ. Al. I. Cuza din Iasi (S.N.), Matematica**, vol LIII, 2007, **Supliment**, 327-342, arXiv: 0707.1526

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30) S. Vacaru, Ricci flows and solitonic pp-waves, **Int. J. Mod. Phys. A** **21** (2006) 4899-4912; arXiv: hep-th/ 0602063

29) S. Vacaru, Clifford-Finsler algebroids and nonholonomic Einstein-Dirac structures, **J. Math. Phys.** **47** (2006) 093504 [20 pages]; arXiv: hep-th/0501217

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28) S. Vacaru, Exact solutions with noncommutative symmetries in Einstein and gauge gravity, **J. Math. Phys.** **46** (2005) 042503 [47 pages]; arXiv: gr-qc/0307103

27) F. Etayo, R. Santamaría and S. Vacaru, Lagrange-Fedosov nonholonomic manifolds, **J. Math. Phys.** **46** (2005) 032901 [17 pages]; arXiv: math.SG/0407495

2004

26) S. Vacaru and N. Vicol, Nonlinear connections and spinor geometry, **Int. J. Math. and Math. Sciences. (IJMMS)**, **23** (2004) 1189-1237; arXiv: math.DG/0406585

25) S. Vacaru and G. D. Esmer, Horizons and geodesics of black ellipsoids with anholonomic conformal symmetries, "Focus on Mathematical Physics, Research 2004", Ed. Charles V. Benton (Nova Science Publishers, NY, 2004), ISBN: 1-59033-923-1, pp. 1-14, www.novapublishers.com; revised in arXiv: gr-qc/0206015

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24) H. Dehnen and S. Vacaru, Nonlinear connections and nearly autoparallel maps in general relativity, **Gen. Rel. Grav.** **35** (2003) 807-850; arXiv: gr-qc/0009038

23) S. Vacaru and H. Dehnen, Locally anisotropic structures and nonlinear connections in Einstein and gauge gravity, **Gen. Rel. Grav.** **35** (2003) 209-250; arXiv: gr-qc/0009039

22) S. Vacaru, Perturbations and stability of black ellipsoids, **Int. J. Mod. Phys. D** **12** (2003) 461-478; arXiv: gr-qc/0206016

21) S. Vacaru, Horizons and geodesics of black ellipsoids, **Int. J. Mod. Phys. D** **12** (2003) 479-494; arXiv: gr-qc/0206014

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20) S. Vacaru and D. Singleton, Warped solitonic deformations and propagation of black holes in 5D vacuum gravity, **Class. Quant. Grav.** **19** (2002) 3583-3602; arXiv: hep-th/0112112

19) S. Vacaru and D. Singleton, Warped, anisotropic wormhole / soliton configurations in vacuum 5D gravity, **Class. Quant. Grav.** **19** (2002) 2793-2811; arXiv: hep-th / 0111045

18) S. Vacaru and O. Tintareanu-Mircea, Anholonomic frames, generalized Killing equations, and anisotropic Taub NUT spinning spaces, **Nucl. Phys. B** **626** (2002) 239-264; arXiv: hep-th/ 0104075

17) S. Vacaru and D. Singleton, Ellipsoidal, cylindrical, bipolar and toroidal wormholes in 5D gravity, **J. Math. Phys.** **43** (2002) 2486-2504; arXiv: hep-th/0110272

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16) S. Vacaru and F. C. Popa, Dirac spinor waves and solitons in anisotropic Taub-NUT spaces, **Class. Quant. Gravity**, **18** (2001) 4921-4938; arXiv: hep-th/0105316

15) S. Vacaru, D. Singleton, V. Botan and D. Dotenco, Locally anisotropic wormholes and flux tubes in 5D gravity, **Phys. Lett. B** **519** (2001) 249-258; arXiv: gr-qc/0103058

14) S. Vacaru, Anholonomic soliton-dilaton and black hole solutions in general relativity, **JHEP**, **04** (2001) 009; arXiv: gr-qc/0005025

13) S. Vacaru, Locally anisotropic kinetic processes and thermodynamics in curved spaces, **Ann. Phys. (N.Y.)** **290** (2001) 83-123; arXiv: gr-qc/0001060

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12) S. Vacaru, Stochastic processes and thermodynamics on curved spaces, **Ann. Phys. (Leipzig)**, **9** (2000) Special Issue, 175-176; arXiv: gr-qc/0001057

1998

11) S. Vacaru, Spinors and field interactions in higher order anisotropic spaces, **JHEP**, **09** (1998) 011, p. 1-49; arXiv: hep-th/9807214

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10) S. Vacaru, Studies on Santilli's locally anisotropic and inhomogeneous isogeometries: I. Isobundles and generalized isofinsler gravity, **Algebras, Groups and Geometries**, **14** (1997) 211-260; arXiv: physics/9704024 and physics/9705030

9) S. Vacaru, Superstrings in higher order extensions of Finsler superspaces, **Nucl. Phys. B**, **434** (1997) 590-656; arXiv: hep-th/9611034

8) S. Vacaru, Locally anisotropic gravity and strings, **Ann. Phys. (NY)**, **256** (1997) 39-61; arXiv: gr-qc/9604013

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7) S. Vacaru and S. Ostaf, Twistors and nearly autoparallel maps, **Rep. Math. Phys.** **37**, 309-324 (1996); gr-qc/9602010

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6) S. Vacaru and Yu. Goncharenko, Yang-Mills fields and gauge gravity on generalized Lagrange and Finsler spaces, **Int. J. Theor. Phys.** **34** (1995) 1955-1980

1994

5) S. Vacaru, S. Ostaf and Yu. Goncharenko, Nearly autoparallel maps and modeling of field interactions, **Romanian J. Phys.** **39** (1994) 199-212

4) S. Vacaru, Nearly autoparallel maps and conservation laws on curved spaces, **Romanian J. Phys.** **39** (1994) 37-52

1990

3) S. I. Vacaru, M. I. Vladimir, and V. A. Moskalenko, Diagram technique for the Hubbard model, **Theor. Math. Phys.** **85** (1990) 248-257 (in Russian); S. I. Vakar, M. I. Vladimir and V. A. Moskalenko, **Theor. Math. Phys.** **85** (1990) 1185 – 1194 (English translation)

2) S. I. Vacaru, Minisuperspace twistor quantum cosmology. **Studia Universitatis Babeş-Bolyai**, Cluj-Napoca, Romania, XXXIV, 2 (1990) 36-43

1987

1) S. I. Vacaru, Twistor-gauge interpretation of the Einstein-Hilbert equations, **Vestnik Moscovskogo Universiteta, Phys. and Astr.** **28** (1987) 5-12 (in Russian); English translation: S. I. Vakar, in: **Mosc. Univ. Phys. Bull.** **42** (1987) 1-7

V. Articles (in Extension) in Proceedings of Main International Conferences

(numbered in inverse chronological order)

12) S. Vacaru, Principles of Einstein-Finsler gravity and cosmology, **Journal of Physics: Conference Series** **314** (2011) 012069; [*Proceedings of Spanish Relativity Meeting (ERE 2010): Gravity as a Crossroad in Physics*, Granada, Spain, 6-10 September, 2010]; arXiv: 1012. 4148

11) D. Baleanu and S. Vacaru, Fractional analogous models in mechanics and gravity theories, in: **Fractional Dynamics and Control**, editors: D. Baleanu, J. A. Tenreiro Machado and A. Luo (Springer, 2012), ISBN 978-1-4614-0456-9, arXiv: 1008.0363

<http://www.springer.com/materials/mechanics/book/978-1-4614-0456-9>

<http://www.amazon.com/Fractional-Dynamics-Control-Dumitru-Baleanu/dp/1461404568>

[http://nsc10.cankaya.edu.tr/proceedings/PAPERS/Symp19-](http://nsc10.cankaya.edu.tr/proceedings/PAPERS/Symp19-New%20Trends%20in%20Nanotechnology%20and%20Nonlinear%20Dynamics/Paper140.pdf)

[New%20Trends%20in%20Nanotechnology%20and%20Nonlinear%20Dynamics/Paper140.pdf](http://nsc10.cankaya.edu.tr/proceedings/PAPERS/Symp19-New%20Trends%20in%20Nanotechnology%20and%20Nonlinear%20Dynamics/Paper140.pdf)

10) D. Baleanu and S. Vacaru, Fractional exact solutions and solitons in gravity, in: **Fractional Dynamics and Control**, editors: D. Baleanu, J. A. Tenreiro Machado and A. Luo (Springer, 2012), ISBN 978-1-4614-0456-9, arXiv: 1008.0360 [math-ph]

<http://www.springer.com/materials/mechanics/book/978-1-4614-0456-9>

<http://www.amazon.com/Fractional-Dynamics-Control-Dumitru-Baleanu/dp/1461404568>

[http://nsc10.cankaya.edu.tr/proceedings/PAPERS/Symp2-](http://nsc10.cankaya.edu.tr/proceedings/PAPERS/Symp2-Fractional%20Calculus%20Applications/Paper21.pdf)

[Fractional%20Calculus%20Applications/Paper21.pdf](http://nsc10.cankaya.edu.tr/proceedings/PAPERS/Symp2-Fractional%20Calculus%20Applications/Paper21.pdf)

9) S. Vacaru and Nadejda Vicol, Generalized Finsler Superspaces. *Conference "Applied Differential Geometry: General Relativity" - Workshop "Global Analysis, Differential Geometry, Lie Algebras"*, 197-229, **BSG Proc.**, **11**, *Geom. Balkan Press, Bucharest*, 2004

8) G. Tsagas and S. Vacaru, Nonlinear connections and isotopic Clifford structures. *Conference "Applied Differential Geometry: General Relativity" -Workshop "Global Analysis, Differential Geometry, Lie Algebras"*, 153-196, **BSG Proc.**, **11**, *Geom. Balkan Press, Bucharest*, 2004

7) S. Vacaru, Nonlinear connection geometry and exact solutions in Einstein and extra dimension gravity, in II International Meeting on Lorentzian Geometry. Murcia, Spain, November 12-14, 2003. Publicaciones de la Real Sociedad Matematica Espanola, **8** (2004) 104-112; arXiv: math.DG/ 0406393, <http://www.um.es/gelomur/>

6) S. I. Vacaru, I. A. Chiosa and Nadejda A. Vicol, Locally anisotropic supergravity and gauge gravity on noncommutative spaces, in: **NATO Advanced Research Workshop Proceedings "Noncommutative Structures in Mathematics and Physics"**, eds S. Duplij and J. Wess, September 23-27, Kyiv, Ukraine (**Kluwer Academic Publishers**, 2001), 229 – 243; arXiv: hep-th/0011221

5) S. Vacaru, Nearly autoparallel maps, tensor integral and conservation laws on locally anisotropic spaces, *Fundamental Open Problems in Science at the end of the Millennium*, Vol. I-III (Beijing, 1997), eds Tepper Gill, Kexi Liu and Erik Trelle (Hadronic Press, Palm Harbor, FL, 1999) 67-103; see a similar preprint: arXiv: dg-ga/9609004

4) S. Vacaru, Exact solutions in locally anisotropic gravity and strings, in: *"Participle, Fields and Gravitations"*, ed. J. Rembielinski, AIP Conference Proceedings, **No. 453, American Institute of Physics**, (Woodbury, New York) 1998, p. 528-537; arXiv: gr-qc/9806080

3) S. Vacaru, Locally anisotropic stochastic processes in fiber bundles, *Proceeding of the Workshop "Global Analysis, Differential Geometry and Lie Algebras"*, December 16-18, 1995, Thessaloniki, Greece, ed. G. Tsagas (Geometry Balkan Press, Bucharest, 1997) 123-140; arXiv: gr-qc/ 9604014

2) S. Vacaru and S. Ostaf, Nearly autoparallel maps of Lagrange and Finsler spaces, in: *Lagrange and Finsler Geometry. Applications to Physics and Biology*, eds P. Antonelli and R. Miron (**Kluwer Academic Publishers**, Dordrecht, Boston, London, 1996), p.241-253

1) I. Gottlieb and S. Vacaru, A. Moor's tensorial integration in generalized Lagrange spaces, in: *Lagrange and Finsler Geometry. Applications to Physics and Biology*, eds. P. Antonelli and R. Miron (**Kluwer Academic Publishers**, Dordrecht, Boston, London, 1996), p.209-216

VI. Other Articles and Scientific Contributions

(numbered in inverse chronological order)

B. Articles in Eastern European Journals and Collections (reviewed; there were restrictions in former URSS to publish in Western Countries)

2001

31) S. Vacaru and F. C. Popa, Torsions and curvature of higher order anisotropic superspaces, *"Theoretical, Mathematical and Computational Physics"*, *Analele Universitatii de Vest din Timisoara*, Vol 14, Nr. 1, (2001) 74-90; S. Vacaru: Locally Anisotropic Interactions: II. Torsions and Curvatures of Higher Order Anisotropic Superspaces; arXiv: hep-th/9607195

30) S. Vacaru and O. Tintareanu-Mircea, Nonlinear connections in higher order anisotropic superspaces, *"Theoretical, Mathematical and Computational Physics"*, *Analele Universitatii de*

Vest din Timisoara, Vol 14, Nr. 1, (2001) 56-73; S. Vacaru: Locally Anisotropic Interactions: I. Nonlinear Connections in Higher Order Anisotropic Superspaces, (24 pages); arXiv: hep-th/9607194

1996

29) S. Vacaru, Stochastic differential equations on spaces with local anisotropy, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **3** (1996) 13-25

28) S. Vacaru, Yang-Mills fields on spaces with local anisotropy, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **3** (1996) 26-31

27) S. Vacaru, Gauge like treatment of generalized Lagrange and Finsler gravity, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **3** (1996) 31-34

26) S. Vacaru, Tensor integration in spaces with local anisotropy, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **1** (1996) 46-51

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25) S. Vacaru, Clifford structures and spinors on spaces with local anisotropy, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **3** (1995) 53-62

24) I. Gottlieb, Dorina Stancu and S. Vacaru, Nearly geodesic tensor integration in de Sitter fiber bundles and conservation laws for gravity, in: *Works of 1,2 and 3 Conferences on Gravitation and Theoretical Physics, Bistrita-1991,1992,1993*, eds I. Gottlieb and N. Ionescu-Pallas (Bistrita-Iasi, Romania, 1995) 120-140

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23) S. Vacaru and Yu. Goncharenko, On exactly solvable 4d quantum gravities, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **3** (1994) 53-58

22) S. Vacaru, S. Ostaf, Yu. Goncharenko and A. Doina, Nearly autoparallel maps of Lagrange spaces, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **3** (1994) 42-53

21) S. Vacaru and S. Ostaf, Twistor quantum cosmology, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **1** (1994). 72-79

20) S. Vacaru and S. Ostaf, Nearly geodesic tensor integration on bispaces; Formulation of conservation laws for gauge gravity, *Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika]*, **1** (1994) 64-72

19) S. Vacaru, Applications of nearly autoparallel maps and of twistor-gauge methods in gravitation and condensed states, Summary of PhD Thesis ("Al.I.Cuza" University, Iasi, Romania, 1994).

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18) S. Vacaru, Nearly autoparallel and twistor transforms of bundle spaces, Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika], **3** (1993) 17-29

17) S. Vacaru and S. Ostaf, Nearly autoparallel mappings in gravitational theories with torsion and nonmetricity, Buletinul Academiei de Stiinte a Republicii Moldova, Fizica si Tehnica [Izvestia Academii Nauk Respubliki Moldova, fizica i tehnika], **3** (1993) 4-17

16) S. Vacaru, S. Ostaf and Yu. Goncharenko, Nearly autoparallel maps and modeling of field interactions, in: *Proceedings of the third Conference on Theoretical Physics, General Relativity and Gravitation, May 24-27, 1993, Bistrita, Romania, vol. 3*, (Romanian Society on General Relativity and Gravitation, Iasi, 1993) 35-52

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15) S. Vacaru and Dorina Stancu, Nearly geodesic mappings of curved spaces and biconnection structures, in: *Kvantovo-Polevye Metody Issledovania VTSP i Neuporedochennyh System (Quantum Field Methods of Investigation of High Temperature Superconductivity and Unordered Systems)*, ed. K. K. Gudima and all (Stiinta, Chisinau, 1992), p.74-86

14) S. Vacaru, Cosmologia cuantica de twistori in minisuperspatiu (Twistor Quantum Cosmology in Minisuperspace), in: *Kvantovo-Polevye Metody Issledovania VTSP i Neuporedochennyh System (Quantum Field Methods of Investigation of High Temperature Superconductivity and Unordered Systems)*, ed. K. K. Gudima and all (Stiinta, Chisinau, 1992), p.63-74 (in Romanian)

13) S. Vacaru, Nearly geodesic twistor interpretation of vacuum gravitational fields, in: *Proceedings of the 1-st and 2-nd Conferences on Theoretical Physics, Gravitation and General Relativity, May 1991 & 1992 Bistrita, Romania, volume 1-2*, (Romanian Society on General Relativity and Gravitation, Iasi, 1992) 94-105

12) S. Vacaru, General relativity theory on nearly geodesic spinor backgrounds, in: *Proceedings of the 1-st and 2-nd Conferences on Theoretical Physics, Gravitation and General Relativity, held May 1991 and 1992, Bistrita, Romania, volume 1-2*, (Romanian Society on General Relativity and Gravitation, Iasi, 1992) 106-134

11) S. Vacaru, Nearly geodesic mappings, twistors and conservation laws in gravitational theories, in: *Lobachevsky and Modern Geometry*, part II, ed. V. Bajanov and all, (University Press, Kazani, Tatarstan, Russia, 1992), p.65-66

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10) S. I. Vacaru, A microscopic basis for the Lagrangian of the model of high temperature superconductivity with broken $SU(2) \times U(1)$ -gauge symmetry, in: *Metody Cvantovoi Teorii Polea v*

Fizike Kondensirovannyh Sred (Methods of Quantum Field Theory in Condensed Media Physics), ed. P. I. Hadji (Stiinta, Chisinau, 1991), p.98-106 (in Russian)

9) S. I. Vacaru, A model of high temperature superconductivity with broken $SU(2) \times U(1)$ -gauge symmetry, in: *Metody Kvantovoi Teorii Polea v Fizike Kondensirovannyh Sred (Methods of Quantum Field Theory in Condensed Media Physics)*, ed. P. I. Hadji (Stiinta, Chisinau, 1991), p.75-97 (in Russian)

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8) S. I. Vacaru, On gauge models of spin glass, in: *Voprosy Kvantovoi Teorii Kondensirovannyh Sred (Questions on Quantum Theory of Condensed Media)*, ed. P.I. Hadji Stiinta, Chisinau, 1990), p. 98-113 (in Russian)

1987

7) S. I. Vacaru, Twistor-gauge methods in general relativity, in: *Gravitation and Fundamental Interactions*, ed. V. G. Bogrov (P. Lumumba University Press, Moscow, 1987), p.11-13 (in Russian)

6) S. I. Vacaru, Twistor-gauge interpretation of the Einstein-Cartan theory, in: *Vsemirnoe Tiagotenie i Teorii Prostranstva-Vremeny (Universal Attraction and Theories of Space-Times)*, ed. V.S.Terletsky (P. Lumumba University Press, Moscow, 1987), p. 77-78 (in Russian)

5) S. I. Vacaru, Holomorphic affine bundles and twistor-gauge interpretation of gravity, N2317 B87 (VINITY, Moscow, 1987), 1-29 (in Russian, in URSS considered as a published chapter for PhD thesis)

4) S. I. Vacaru, Holomorphic bundles and twistor gauge approach to the system of Yang-Mills and gravity with torsion fields, N2316 B87 (VINITY, Moscow, 1987), 1-24 (in Russian, in URSS considered as a published chapter for PhD thesis)

3) S. I. Vacaru, Holomorphic GA4 gauge gravity and infinitesimal neighborhoods of curved space-time isotropic geodesics, N1486 B87 (VINITY, Moscow, 1987), 1-27 (in Russian, in URSS considered as a published chapter for PhD thesis)

1983

2) S. I. Vacaru (S. I. Vakaru) and A. F. Pisarev, Parametric amplification based on multiwave processes on multifoton-graviton resonance (Parametric enhancement on multiwave parametric processes with multifoton-graviton resonance), in: *Gravitational Waves, Works of the Conference on Problems on Radiation and Detection of Gravitational Waves, Joint Institute of Nuclear Researches, Dubna, URSS, 1983, D2, 13-83-689*, ed. A. F. Pisarev (JINR, **Dubna**, 1983), p.75-88 (in Russian)

1) S. I. Vacaru (S. I. Vakaru), Multifoton-graviton resonance processes and parametric amplification in gase like media, in: *Gravitational Waves, Works of the Conference on Problems on Radiation and Detection of Gravitational Waves, Joint Institute of Nuclear Researches, Dubna, URSS, 1983, D2, 13-83-689*, ed. A. F. Pisarev (JINR, Dubna, 1983), p.60-69 (in Russian)

D. Recent Electronic Preprints, including lectures and communications, or papers, included in monographs and articles:

2011

30. S. Vacaru, Super-luminal effects for Finsler branes as a way to preserve the paradigm of relativity theories, arXiv: 1110.0675

29. S. Vacaru, Lagrange-Ricci Flows and Evolution of Geometric Mechanics and Analogous Gravity on Lie Algebroids, arXiv: 1108.4333

28. S. Vacaru, Decoupling of EYMH equations, off-diagonal solutions, and black ellipsoids and solitons, arXiv: 1108.2022

27. S. Vacaru, Hidden Symmetries for Ellipsoid-Solitonic Deformations of Kerr-Sen Black Holes and Quantum Anomalies, arXiv: 1106.1033

2010

26. S. Vacaru, Diffusion and Self-Organized Criticality in Ricci Flow Evolution of Einstein and Finsler Spaces, arXiv: 1010.2021

25. S. Vacaru, Nonholonomic Relativistic Diffusion and Exact Solutions for Stochastic Einstein Spaces, arXiv: 1010.0647

24. S. Vacaru, The Algebraic Index Theorem and Fedosov Quantization of Lagrange-Finsler and Einstein Spaces, arXiv: 1005.3647

23. S. Vacaru, Principles of Einstein-Finsler Gravity and Perspectives in Modern Cosmology, arXiv: 1004.3007

22. S. Vacaru, Fractional Nonholonomic Ricci Flows, arXiv: 1004.0625

2009

21. S. Vacaru, Black Holes, Ellipsoids, and Nonlinear Waves in Pseudo-Finsler Spaces and Einstein Gravity, arXiv: 0905.4401

2007

20. S. Vacaru, Finsler-Lagrange Geometries and Standard Theories in Physics: New Methods in Einstein and String Gravity, (a short variant was published in **Int. J. Geom. Methods. Mod. Phys.** **5** (2008)] 473-511, see arXiv: 0801.4958); arXiv: 0707.1524

19. S. Vacaru, Nonholonomic Algebroids, Finsler Geometry, and Lagrange-Hamilton Spaces, arXiv: 0705.0032;

18. S. Vacaru, Nonholonomic Ricci Flows: III. Curve Flows and Solitonic Hierarchies, arXiv: 0704.2062

2006

17. S. Vacaru, Nonholonomic Ricci Flows: I. Riemann Metrics and Lagrange-Finsler Geometry, arXiv: math.DG/0612162

16. S. Vacaru, Curve Flows and Solitonic Hierarchies Generated by (Semi) Riemannian Metrics, math-ph/0608024; an extended and revised variant published by **Acta Applicandae Mathematicae [ACAP]** (2010), see arXiv: 0810.0707

2005

15. S. Vacaru, Nonholonomic Gerbes, Riemann-Lagrange Spaces, and the Atiyah-Singer Theorems, math-ph/0507068

14. S. Vacaru, Nonholonomic Deformations of Disk Solutions and Algebroid Symmetries in Einstein and Extra Dimension Gravity, gr-qc/0504095

13. S. Vacaru, Clifford Algebroids and Nonholonomic Spinor Deformations of Taub-NUT Spacetimes, hep-th/0502145

12. S. Vacaru, Einstein-Cartan Algebroids and Black Holes in Solitonic Backgrounds, gr-qc/0501057

2002

11. S. Vacaru and Nadejda Vicol, Nonlinear Connections and Clifford Structures, 80 pages; Presented as Poster at 6th International Conference on Clifford Algebras and their Applications, Cookeville, Tennessee, USA, May 18-25, 2002, Published in a short variant (50 pages): S. Vacaru and N. Vicol, Nonlinear Connections and Spinor Geometry, Int. J. Math. and Math. Sciences (IJMMS), 23 (2004) 1189-1237; math.DG/0205190
<http://ijmms.hindawi.com/volume-2004/S0161171204212170.html>

1999

10. S. Vacaru, Thermodynamic geometry and locally anisotropic black holes; text of a Lecture at the Math. Dep. Athens University, Greece, June 24, 2001, gr-qc/9905053

1998

9. S. Vacaru, Gauge Gravity and Conservation Laws in Higher Order Anisotropic Spaces; included in: Sergiu Vacaru: Interactions, Strings, and Isotopies in Higher Order Anisotropic Superspaces (Hadronic Press, Palm Harbor, USA, 1998) 260-283; hep-th/9810229

8. S. Vacaru, Miron's Generalization of Lagrange and Finsler Gravities: a Self-Consistent Approach to Locally Anisotropic Gravity; (text of a communication in honor of Radu Miron 70th birthday), physics/9801015

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7. S. Vacaru, Field Interactions and Strings in Higher Order Anisotropic Spaces; included in Sergiu Vacaru: Interactions, Strings, and Isotopies in Higher Order Anisotropic Superspaces (Hadronic Press, Palm Harbor, USA, 1998), pp. 201-314; hep-th/9611091

6. S. Vacaru, Spinors, Nonlinear Connections and Nearly Autoparallel Maps of Generalized Finsler Spaces (77 pages); extension of the paper in: P. Antonelli and R. Miron (eds.) "Lagrange

and Finsler Geometry, Applications to Physics and Biology) (Kluwer, 1996), pp. 241-256; dg-ga/9609004;

5. S. Vacaru, Locally Anisotropic Interactions: III. Higher Order Anisotropic Supergravity; included in: Nucl. Phys. B 434 (1997) 619-624; hep-th/9607196

4. S. Vacaru, Nearly Autoparallel Maps, Tensor Integral and Conservation Laws in Locally Anisotropic Spaces, (38 pag.) (Extension of a Work in "Romanian J. Phys" 39 (1994) 37-52); gr-qc/9604017

3. S. Vacaru, Nonlinear Connections in Superbundles and Locally Anisotropic Supergravity, (40 pag.); Published in: Sergiu Vacaru: Interactions, Strings, and Isotopies in Higher Order Anisotropic Superspaces (Hadronic Press, Palm Harbor, USA, 1998), pp. 60-88; gr-qc/9604016

2. S. Vacaru, Spinors in Higher Dimensional and Locally Anisotropic Spaces, an extension of the paper published in J. Math. Phys. 37 (1996) 508-523; gr-qc/9604015

1. S. Vacaru, Stochastic Processes and Diffusion on Spaces with Local Anisotropy (54 pages); there are given details of the calculus for: G. Tsagas (ed.) "Global Analysis, Differential Geometry and Lie Algebras" (Geometry Balkan Press, Thessaloniki, Bucharest, 1997), pp. 123-140; gr-qc/9604014

E. Conferences, Seminars, Lectures etc

2011

110 S. Vacaru, Fractional Stochastic Ricci flows and solitons, invited seminar (with partial support by hosts and project IDEI), INFN, Dep. Physics, Bologna, Italy December 12, 2011 [host Prof. F. Mainardi]

109 S. Vacaru, Ricci Solitons and Off-Diagonal Solutions in Einstein and Modified Gravity, invited seminar (with partial support by hosts and project IDEI), Faculty of Science and Technology, University of Stavanger, Norway, December 2, 2011 [host Prof. S. Hervik]

108 S. Vacaru, Decoupling, Integrability and Quantization of Einstein and Finsler Gravity Theories, invited seminar (with partial support by hosts and project Idei) at King's College of London, Department of Physics, November 30, 2011 [host Prof. N. Mavromatos]

107 S. Vacaru, Decoupling of Gravitational Field Equations, Off-Diagonal Solutions and Solitonic Hierarchies, invited seminar (with partial support by hosts and project Idei) at University College of London - UCL, Department of Mathematics, November 28, 2011 [hosts Prof. D. Vassiliev and C. Boemer]

106 S. Vacaru, Decoupling and Exact Solutions of Einstein Equations and Covariant Renormalizable Gravity Theories, Review Lecture and Selected Results, Institut de Ciències de l'Espai - ICE, Barcelona, September 13, 2011 [complete support from hosts: Prof. S. D. Odintsov and E. Elizalde]

105 S. Vacaru, Decoupling and Exact Solutions of Einstein Equations and Quantum Gravity, Review Lecture and Recent Results, IFT and Universidad Autonoma de Madrid - UAM, Facultad de CIENCIAS, Departamento de Fisica Teorica, September 12, 2011 [complete support from hosts: Prof. Dr. E. Alvarez and Dr. R. Vidal]

104 S. Vacaru, Decoupling and Exact Solutions of Einstein Equations in Almost Kaehler Variables, Poster Session at VI International Meeting on Lorentzian Geometry, Granada, Spain, September 6-9, 2011 [complete support from organizers]

103 S. Vacaru, Geometric Flows of Lagrange and Hamilton Geometries and Deformation Quantization, Research Seminar at Instituto de Ciencias Matematicas, Madrid, Spain, [complete support from host Acad. Prof. Dr. M. de Leon, September 5, 2011]

102 S. Vacaru, Finsler Geometry Methods and Generalizations of Classical and Quantum Gravity, Review Lecture at the VII-th International Conference Finsler Extensions of Relativity Theory - FERT 2011, 29 Aug - 4 Sep 2011, Brasov – Romania, September 2, 2011 [partial support from UAIC and Organizers]

101 S. Vacaru, Noncommutative Black Ellipsoids and Rings and Nonholonomic Ricci Flows, Invited Research Seminar at Jacobs University, held at ZARM Bremen University, Germany, February 22, 2011 [complete support from host Prof. Dr. P. Schupp]

100 S. Vacaru, Principles of Relativity in Einstein and Finsler Gravity and Exact Solutions, Invited Review Lecture at Zarm, University Bremen, Germany, February 22, 2011 [complete support from hosts Prof. Dr. C. Laemmerzahl and Dr. V. Perlick]

2010

99 S. Vacaru, Almost Kaehler – Ricci Flows and Deformation Quantization of Gravity, (review lecture, Nov 16, 2010, at Mathematics Research Unit, Universite du Luxembourg, Nov 15-17, 2010) [complete support from host: prof. M. Schlichenmaier]

98 S. Vacaru, On Geometric Methods of Generating Exact Solutions in Gravity (research seminar), Universite de Mons, Physique Theorique et Math., Belgium, November 12, 2010 [short visit, Nov 6-14, complete support from host: prof. Yves Brihaye]

97 S. Vacaru, Noncommutative Ricci Flows and Exact Solutions in Gravity, (review lecture, Nov 5, 2010, at Universitat Wien, Mathematical Physics & short visit at E. Schroedinger Institute, Nov 3-5, 2010) [complete support from host: prof. H. Grosse]

96 S. Vacaru, Finsler-Ricci Flows and Exact Solutions in Gravity, (research seminar), Universitat Leipzig, Mathematisches Institut, Germany, November 2, 2010 [short visit Nov 1-2, complete support from host: prof. H. Rademacher]

95 S. Vacaru, Modified Dispersion Relations in Horava-Lifshitz Gravity and Finsler Grane Models, Seminar at Max-Planck-Institut für Gravitationsphysik, Albert-Einstein-Institut, Potsdam-Golm, Germany, October 29, 2010 (visit Oct 16-31, 2010), complete support from AEI, http://seminput.aei.mpg.de/more_info.php?which=3346&talk=index

- 94** S. Vacaru, Diffusion and Self-Organized Criticality in Ricci Flow Evolution of Einstein and Finsler Spaces, Research Seminar at: Institute of Mathematics "O. Mayer", Romanian Academy, Iasi Branch, October 11, 2010
- 93** S. Vacaru, Diffusion Processes on Nonholonomic Manifolds and Stochastic Solutions for Einstein Spaces, Multidisciplinary Research Seminar at: Institute of Mathematics "O. Mayer", Romanian Academy, Iasi Branch, October 4, 2010
- 92** S. Vacaru, Principles of Einstein-Finsler Gravity, Review Lecture at Department of Mathematics, Faculty of Sciences, University of Granada, Spain, September 9, 2010 (complete support from host Prof. M. Sanchez Caja)
- 91** S. Vacaru, Principles of Einstein-Finsler Gravity and Perspectives in Modern Cosmology, talk on September 8, 2010 at: ERE2010, Spanish Relativity Meeting, September 6-10, 2010, Granada, Spain [complete support from organizers]
- 90** D. Baleanu and S. Vacaru, Fractional Analogous Models in Mechanics and Gravity Theories, Communication on July 29, 2010, at 3rd Conference on Nonlinear Science and Complexity; 28-31 July; Cankaya University, Ankara, Turkey; <http://nsc10.cankaya.edu.tr/program.php> [complete support from organizers]
- 89** D. Baleanu and S. Vacaru, Fractional exact solutions and solitons in gravity, Communication on July 26, 2010, at Conference "New Trends in Nanotechnology and Nonlinear Dynamical Systems", July 25-27, 2010; Cankaya University, Ankara, Turkey; <http://nnds10.cankaya.edu.tr/> [complete support from organizers]
- 88** S. Vacaru, On General Solutions in Topological Massive Gravity and Ricci Flows, Seminar at Department of Mathematics, Bilkent University, July 22, 2010, Ankara, Turkey (complete support from host: Metin Gurses)
- 87** S. Vacaru, Perelman's Functionals for Nonholonomic Cotton Flows and Exact Solutions in Massive Gravity, Seminar at Department of Physics, Middle East Technical University, July 21, 2010, Ankara, Turkey (complete support from host: Bayram Tekin)
- 86** S. Vacaru, Lagrange-Finsler Spaces, Noncommutative Ricci Flows and Deformation Quantization, Seminar at Department of Mathematics, Yeditepe University, July 20, 2010, Istanbul, Turkey (complete support from host: Ilhan Ikeda)
- 85** S. Vacaru, (Non) Commutative Black Ellipsoids and Rings as Supergravity Solutions for S-Branes, Seminar at Department of Physics, Bogazici University, July 19, 2010, Istanbul, Turkey (complete support from host: Ali Kaya)
- 84** S. Vacaru, Noncommutative Ricci Flows and Applications in Modern Gravity and Geometric Mechanics, Invited lecture at: Noncommutative Geometry Workshop, Noncommutative Geometry Days in Istanbul, June 25-27, 2010, Istanbul Center for Mathematical Sciences (IMBM) and Bahcesehir University, Organizers: Muge Kanumi and Atabey Kaygun [complete support from organizers].
http://web.bahcesehir.edu.tr/atabey_kaygun/workshop.html

http://web.bahcesehir.edu.tr/atabey_kaygun/ncg-workshop.pdf

83 M. Anastasiei and S. Vacaru, General Solutions in Einstein Gravity and (Non)-Commutative Finsler-Lagrange Modifications, Invited lecture at: National Conference on Theoretical Physics, NCTP2010 –fourth edition, June 23-25, 2010, “Alexandru Ioan Cuza” University of Iasi, Romania, <http://stoner.phys.uaic.ro/NCTP2010.html>

82 S. Vacaru, (Non) Commutative Ricci Flows of Fedosov-Finsler Spaces and Quantum Gravity, talk at: Workshop on Algebraic Geometry and Physics (WAGP 2010) June 7-11, 2010; Saint Jean de Monts, France [partial support from organizers and UAIC]; <http://people.sissa.it/~bruzzo/wagp2010/index.htm>
<http://www.scribd.com/doc/33210167/Non-Commutative-Ricci-Flows-of-Fedosov-Finsler-Spaces-and-Quantum-Gravity>

2009

81 S. Vacaru, Ricci Flows and (Non) Commutative Einstein-Finsler Spaces, Communication at: Seminarul Informal de Noutati Geometrice (SING) November 24, 2009; http://www.math.uaic.ro/~litcanu/091124uaic_transp.pdf
<http://www.scribd.com/people/documents/1455460/folder/137623>

80 S. Vacaru, Anholonomic Deformations in Einstein and Lagrange-Finsler Gravity and Ricci Flow Theories, Communication at: Seminarul Informal de Noutati Geometrice (SING) November 17, 2009; http://www.math.uaic.ro/~litcanu/transp_Vacaru.pdf
<http://www.scribd.com/people/documents/1455460/folder/137623>

2008

79 Participation at: Noncommutative Geometry Workshop, Fields Institute, May 27-31, 2008, <http://www.fields.utoronto.ca/programs/scientific/07-08/noncommutative/> [partial support from organizers]

78 Short Term Visit and Seminar “Loop Quantum Gravity and Deformation Quantization” at Perimeter Institute, February 7, complete support from host: Prof. J. Moffat, February 6-8, 2008, http://www.perimeterinstitute.ca/index.php?option=com_content&task=view&id=50&Itemid=83&lecture_id=6445
http://pirsa.org/index.php?p=speaker&name=Sergiu_Vacaru
<http://streamer.perimeterinstitute.ca/Flash/036b0512-12bf-41dd-843b-3730734ea042/viewer.html>

77 Participation at January 14-17, 2008, Conference on Mathematical Physics and Geometric Analysis at the Fields Institute, Toronto, [partial support from organizers] <http://www.fields.utoronto.ca/programs/scientific/07-08/geomanalysis/>
<http://streamer.perimeterinstitute.ca/Flash/036b0512-12bf-41dd-843b-3730734ea042/viewer.html>

2007

76 S. Vacaru, Nonholonomic Ricci Flow, Nonsymmetric Gravity and Stability, Visit at Perimeter Institute, complete support from host: prof. J. Moffat, November 1-3, 2007,

http://www.perimeterinstitute.ca/index.php?option=com_content&task=view&id=30&Itemid=72&pi=Sergiu_Vacaru

75 S. Vacaru, The Entropy of Lagrange-Ricci Flows, contribution to CANCAM 2007 Conference. page 19, Session FMLF2: <http://www.ryerson.ca/cancam07/PrelimProgram.pdf>

74 S. Vacaru, Curve Flows, Riemann-Finsler Solitonic Hierarchies and Applications, Talk at Fields Institute Colloquium/Seminar in Applied Mathematics, April 11, 2007, http://www.fields.utoronto.ca/programs/scientific/06-07/applied_math/

2006

73 S. Vacaru, Anholonomic Frames Exact Solutions with Generalized Symmetries in Gravity, Seminars on January 18 and 25, 2006, at Mathematical Department, Brock University, St Catharines, Ontario, Canada, <http://www.brocku.ca/mathematics/seminars/research.php>

2005

72 S. Vacaru, Exact Solutions and Generalized Lie Symmetries in Gravity, Seminars on "Relativity and Cosmology" supervised by P. Gonzales at IMAFF CSIC, Madrid, October 14, 2005, <http://www.imaff.csic.es/pcc/seminarios.htm>

71 S. Vacaru, Noncommutative Clifford Algebroids and Riemann-Lagrange Geometry, Oral communication accepted at International Conference on Clifford Algebras and their Applications, ICCA 7, Toulouse, May 19-29, 2005, <http://www.icca7.ups-tlse.fr/communic.html>

2004

70 S. Vacaru, Lagrange-Fedosov Geometry, Communication at the Dep. Mathematics, University of Cantabria, Santander, Spain, June 21-28, 2004 (host, F. Etayo).

69 S. Vacaru, Cosmological Solutions in Brane Gravity with Quantum Group Symmetry, Lecture at "Consejeria de Educacion de la Junta de Andalucia" and the "Grupo de Estructura de la Materia", and the of the University of Huelva, host M. E. Gomez, supported by "Consejeria de Educacion de la Junta de Andalucia", June 17, 2004.

68 S. Vacaru, A Survey of (Non) Commutative Lagrange and Finsler Geometry, Lecture 2: Noncommutative Lagrange—Finsler Geometry. P. Almeida Seminar, Inst. Sup. Tecnico, Dep. Math., Lisboa, Portugal, May 19, 2004.

67 S. Vacaru, A Survey of (Non) Commutative Lagrange and Finsler Geometry, Lecture 1: Commutative Lagrange—Finsler Spaces and Spinors, P. Almeida Seminar, Inst. Sup. Tecnico, Dep. Math., Lisboa, Portugal, May 19, 2004.

66 S. Vacaru, Geometric Models in Mechanics and Field Theory, Invited lecture at the Dep. Mathematics, University of Cantabria, Santander, Spain, March 16, 2004 (host, F. Etayo).

65 S. Vacaru, Noncommutative Symmetries Associated to the Lagrange and Hamilton Geometry, Invited lecture at the Instituto de Matematicas y Fisica Fundamental, Consejo Superior de Investigaciones, Ministerio de Ciencia y Tecnologia, Madrid, Spain, March 10, 2004 (host, M. de Leon).

64 S. Vacaru, Commutative and Noncommutative Gauge Models, Invited lecture at the Department of Experimental Sciences, University of Huelva, Spain, March 5, 2004 (host, M. Gomez).

2003

63 S. Vacaru, Anholonomic Frame Transforms and Exact Solutions in String Gravity, Invited lecture at the Dep. Fisica, University of Salamanca, Spain, November 25, 2003 (host M. Mars).

62 S. Vacaru, (Non) Commutative Finsler Geometry from String/M—theory, Section “String and M-Theory”, Poster at XIV Int. Congress Math. Phys. 2003, Lisbon

61 S. Vacaru, Horizons, Geodesics and Stability of Black Ellipsoids, Section “General Relativity”, Poster at XIV Int. Congress Math. Phys. 2003, Lisbon

60 S. Vacaru, Noncommutative Gauge Gravity and Finsler Geometry in String Theory, Abstract of accepted communications for the 10th Marcel Grossmann Meeting on General Relativity, Rio de Janeiro, Brazil, July 16-18, 2003, <http://www.cbpf.br/mg10/parallel/s2.html>

59 S. Vacaru, (Non) Commutative Finsler Geometry, Gauge Gravity and Strings, String Theory Seminar, IST, Lisbon, Portugal March 21, 2003, <http://www.math.ist.utl.pt/~strings/strings2.html>

58 S. Vacaru, Noncommutative Finsler Geometry, Gauge Fields and Gravity, Invited seminar at the Dep. Theoretical Physics, University of Zaragoza, Spain, November 19, 2003 (host L. Boya),

57 S. Vacaru, Nonlinear Connection Geometry and Exact Solutions in Einstein and Extra Dimension Gravity, Communication. Abstract at Geometría de Lorentz <http://www.um.es/gelomur/> Murcia, Spain, November 12-14, 2003

56 S. Vacaru, Nonlinear Connection Geometry and Exact Solutions in String Gravity, Abstract at The XIIth Oporto Meeting on Geometry, Topology and Physics, in Oporto, Portugal, July 17th to 20th, 2003, with the main topic “*MATHEMATICS & STRING THEORY*”, Satellite of the [XIV International Congress on Mathematical Physics](#), Lisbon, July 28th to August 2, 2003

2002

55 S. Vacaru, Dirac Spinor Waves and Solitons in Anisotropic Taub-NUT Spaces, Abstract 1.57 at International Conference on Theoretical Physics Paris, UNESCO, 22-27 July 2002

54 S. Vacaru, Anholonomic Soliton-Dilaton and Black Ellipsoid-Torus Solutions, Abstract 3.50 at International Conference on Theoretical Physics Paris, UNESCO, 22-27 July 2002

53 S. Vacaru, Locally Anisotropic Kinetic Processes and Thermodynamics in Curved Spaces, Abstract 4.132 at International Conference on Theoretical Physics, Paris, UNESCO, 22-27 July 2002

52 S. Vacaru, Ellipsoidal, Toroidal and Solitonic Wormholes in 5D Gravity, Abstract 10.49 at International Conference on Theoretical Physics, Paris, UNESCO, 22-27 July 2002

51 S. Vacaru, Clifford Structures and Noncommutative Finsler Geometry in Sting Theory, Abstract 11.38 at International Conference on Theoretical Physics, Paris, UNESCO, 22-27 July 2002

50 S. Vacaru, Noncommutative Finsler Geometry and Physics, Abstract of Poster Session, Abstract and Programs of ICCA 6th International Conference on Clifford Algebras and their Applications, Cookeville, Tennessee, USA, May 18-25, 2002, p. 84, ed. R. Ablamowicz and J. Ryan

49 S. Vacaru, Anisotropic Spinor-Dirac Waves in 5D Gravity, Abstract of Poster Session, Abstract and Programs of ICCA 6th International Conference on Clifford Algebras and their Applications, Cookeville, Tennessee, USA, May 18-25, 2002, p. 85, ed. R. Ablamowicz and J. Ryan

48 S. Vacaru and P. Stavrinou, Spinors and Space-Time Anisotropy, Abstract of Poster Session, Abstract and Programs of ICCA 6th International Conference on Clifford Algebras and their Applications, Cookeville, Tennessee, USA, May 18-25, 2002, p. 85, ed. R. Ablamowicz and J. Ryan

47 S. Vacaru and Nadejda Vicol, Nonlinear Connections and Dual Clifford Structures, Abstract of Poster Session, Abstract and Programs of ICCA 6th International Conference on Clifford Algebras and their Applications, Cookeville, Tennessee, USA, May 18-25, 2002, p. 84, ed. R. Ablamowicz and J. Ryan

46 S. Vacaru, Exact Solutions: Anisotropic Configurations and Non-Trivial Topology, presented at "Encontro de Reflexao Estrategica do CENTRA, 5-7 Abril, 2002, in Estaalagem Quinta de St. Antonio (Elvas, Portugal).

2001

45 S. Vacaru, Ellipsoid and Toroidal Configurations in String Gravity, 30 min talk at [Strings@pt](#) Second Meeting, December 21 and 22, 2001 at the "Instituto Superior Tecnico", Lisbon

44 P. Stavrinou, S. Vacaru, E. Gaburov and D. Gontsa, Anholonomic Frames and Nonlinear Connections in General Relativity, Communication at the International Conference on "Finsler, Lagrange and Hamilton Spaces", Al. I. Cuza University, Iasi, Romania, 26-31 August, 2001.

43 S. Vacaru, P. Stavrinou and N. Vicol, Spinors in Lagrange and Hamilton Spaces, Communication at the International Conference on "Finsler, Lagrange and Hamilton Spaces", Al. I. Cuza University, Iasi, Romania, 26-31 August, 2001.

42 S. Vacaru and P. Stavrinou, "Spinors and Space-Time Anisotropy" (outline of the monograph), Communication at the International Conference on "Finsler, Lagrange and Hamilton Spaces", Al. I. Cuza University, Iasi, Romania, 26-31 August, 2001.

41 S. Vacaru and Nadejda Vicol, Generalized Finsler Superspaces. Contribution to the Conference on Applied Differential Geometry – General Relativity, Aristotle University of Thessaloniki, School of Technology, Mathematics Division, Thessaloniki, Greece, June 27-July 1, 2001, Editor Prof. Gr. Tsagas

40 G. Tsagas and S. Vacaru, Nonlinear Connections and Clifford Isotopic Structures. Contribution to the Conference on Applied Differential Geometry – General Relativity, Aristotle University of Thessaloniki, School of Technology, Mathematics Division, Thessaloniki, Greece, June 27-July 1, 2001, Editor Prof. Gr. Tsagas

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