Raport Anual

Institutul de Matematică "Simion Stoilow" al Academiei Române

2020

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2. D. Tiba, C.M.Murea *Topological optimization via cost penalization*, **Topol. Meth. Nonl. Anal. 54**(2019), pag. 1023 – 1050

3. V. Lie: *The pointwise convergence of Fourier series (II). Strong L^1 case for the lacunary Carleson operator.*, **Adv. Math. 357**(2019), pag. 1 – 84.

4. N. Papageorgiou, V. Rădulescu, D. Repovš *Positive solutions for a class of singular Dirichlet problems*, **J. Diff. Eq. 267** (2019), pag. 6539 – 6554

5. N. Papageorgiou, V. Rădulescu, D. Repovš *Nonlinear singular problems with indefinite potential term*, **Anal. Math. Phys. 9** (2019), pag. 2237 – 2262

6. H. Cornean, B. Helffer, R. Purice: *Peierls' substitution for low lying spectral energy windows*, **J. Spectral Th. 9**(2019), pag. 1179 – 1222

7. A. Constantinescu, T. Kahle, M. Varbaro M.: *Linear Syzygies, Hyperbolic Coxeter Groups, and Regularity*, **Compos. Math., 502** (2019), pag. 1076 – 1097

8. M. Brown, H. Huang, R. Laudone, M. Perlman, C. Raicu, S.Steven, J. Santos: *Computing Schur complexes*, **J. Softw. Algebra Geom. 9** (2019) pag. 111-119.

9. A. Negut: *Shuffle algebras associated to surfaces*, **Sel. Math. New Ser. 25**(2019), https://doi.org/10.1007/s00029-019-0481-z

10. Y. A. Kordyukov, X. Ma, G. Marinescu: *Generalized Bergman kernels on symplectic manifolds of bounded geometry*, **Comm. Partial Differential Equations 44**(2019), pag. 1037 – 1071

11. D. Coman, S. Klevtsov, G. Marinescu: *Bergman kernel asymptotics for singular metrics on punctured Riemann surfaces*, **Indiana Univ. Math. J. 68**(2019), 593 – 628

12. L. Badea: *On the convergence of a multigrid method for Moreau-regularized variational inequalities of the second kind*, **Adv. Comput. Math., 45** (2019), pag. 2807 – 2832

13. J. Li, A. Zaharescu: *Value distribution of $L'(\rho)$*, **J. Math. Anal. Appl. 480**(2019), pag. 1 – 24

14. B. C. Berndt, J. Li, A. Zaharescu: *The final problem: an identity from Ramanujan's lost notebook*, **J. London Math. Soc 100**(2019), pag. 568 – 591

15. C. Adams, J. Hoste, M. Palmer: *Triple-crossing number and moves on triple-crossing link diagrams*, **Journal of Knot Theory and Its Ramifications 28** (2019), 1940001 (20 pag.)

16. J. Arbunich, I. Nenciu, C. Sparber, Stability and instability properties of rotating Bose-Einstein condensates, *Lett. Math. Phys.* **109** (2019), 1415–1432.

17. E. Mihăilescu: *Hyperbolic Lifts and Estimates for Overlap Numbers*, **J. Stat. Phys. 177**(2019), pag. 468-484.

1.2 În alte reviste

1. M. Cimpoeaş: *A note on the linear independence of a class of series of functions*, **J. Anal. 27**(2019), pag. 1189 – 1205

2. G. Paşa: *Some Contradictions in the Multi-Layer Hele-Shaw Flow*, **Int. Journal of Petroleum Technology 6** (2019), pag. 41–48.

1.3 Capitole în volume colective

1. A. Braverman, M. Finkelberg, A. Neguţ, A. Oblomkov, *Moduli Spaces of Sheaves on Surfaces: Hecke Correspondences and Representation Theory*, **Lecture Notes in Mathematics 2248: Geometric Representation Theory and Gauge Theory**, editori: U. Bruzzo, A. Grassi, F. Sala, Springer International Publishing (2019), pag. 53 – 81, ISBN:978-3-030-26855-8

2 Lucrări publicate în 2020

2.1 În reviste din străinătate cotate ISI

1. V. Lie: *The Polynomial Carleson operator*, **Ann. Math. 192** (2020), pag. 47 – 163

2. A. Gaitan, V. Lie: *The boundedness of the (sub)bilinear maximal function along "non-flat" smooth curves*, **J. Fourier Anal. Appl. 26**(2020), pag. 1–22.

3. M. Cimpoeaş, F. Nicolae: *Artin L-functions of almost monomial Galois groups*, **Forum Math. 32, no. 4**(2020), pag. 937 – 940

4. M. Cimpoeaş: *On the restricted partition function via determinants with Bernoulli polynomials*, **Mediterr. J. Math. 17, no. 2, Art. 51**(2020), pag. 1 – 19

5. M. Cimpoeaş: *On the semigroup ring of holomorphic Artin L-functions*, **Colloq. Math. 160 (2020), no. 2**(2020), pag. 283 – 295

6. M. Cimpoeaş: *Two semigroup rings associated to a finite set of meromorphic functions*, **Math. Slovaca 70**(2020), pag. 1249 – 1257

7. S. Dăscălescu, C. Năstăsescu, L. Năstăsescu: *Hopf algebra actions and transfer of Frobenius and symmetric properties*, **Math. Scand 126** (2020), pag. 32 – 40

8. D. Ionescu-Kruse: *Exponential profiles producing genuine three-dimensional nonlinear flows relevant for equatorial ocean dynamics*, **J. Differential Eq. 268** (2020), pag. 1326 – 1344.

9. S. Burciu: *Conjugacy classes and centralizers for pivotal fusion categories*, **Monatsh. Math. 193**(2020), pag. 13 – 46

10. A. Negut: *Quantum toroidal and shuffle algebras*, **Adv. Math. 372**(2020), 107288

11. D. Maulik, A. Negut: *Lehn's formula in Chow and conjectures of Beauville and Voisin*, **J. Inst. Math. Jussieu**(2020), pag. 1–39

12. S. Burciu: *Representations and conjugacy classes of semisimple quasitriangular Hopf algebras*, **SIGMA. Symmetry Integrability Geom. Meth. Appl. 16, 039**(2020), pp 20

13. F. Chindea: *ACM line bundles on elliptic ruled surfaces*, **Manuscripta Math. 161** (2020), pag. 213–222

14. M. Cipu, A. Filipin, Y. Fujita: *Diophantine pairs that induce certain Diophantine triples*, **J. Number Theory 200**(2020), pag. 433–475

15. M. Cipu, A. Filipin, Y. Fujita: *An infinite two-parameter family of Diophantine triples*, **Bull. Malay. Math. Soc. 43**(2020), pag. 481–498

16. V. Cortes, L. David: *Twist, elementary deformation, and K/K correspondence in generalized geometry*, **Internat. J. Math. 31**(2020), pag. 2050078.

17. L. Liu, A. Makhlouf, C. Menini, F. Panaite: *Rota-Baxter operators on BiHom-associative algebras and related structures*, **Colloq. Math. 161** (2020), pag. 263 – 294

18. L. Liu, A. Makhlouf, C. Menini, F. Panaite: *BiHom-Novikov algebras and infinitesimal BiHom-bialgebras*, **J. Algebra 560** (2020), pag. 1146 – 1172

19. L. David, C. Hertling: *(T)-structures over two-dimensional F-manifolds: formal classification*, **Ann. Mat. Pura Appl. 199** (2020), pag. 1221 – 1242

20. J. Itoh, C. Vîlcu, T. Zamfirescu: *With respect to whom are you critical?*, **Adv. Math. 369**(2020), 107187; [15 pagini]

21. G. Paşa: *A paradox in Hele-Shaw displacements*, **Ann. Univ. Ferrara 66** (2020), pag. 1 – 10.

22. J. Rouyer, C. Vîlcu: *Farthest points on most Alexandrov surfaces*, **Adv. Geom. 20**(2020), 139-148

23. G.P. Panasenko, R. Stavre: *Viscous Fluid-Thin Elastic Plate Interaction: Asymptotic Analysis with Respect to the Rigidity and Density of the Plate*, **Applied Math. Optim. 81**(2020), pag. 141 – 194

24. R. Stavre: *Optimization of the blood pressure with the control in coefficients*, **Evolution Equations and Control Theory 9**(2020), pag. 131 – 151

25. G.P. Panasenko, R. Stavre: *Three Dimensional Asymptotic Analysis of an Axisymmetric Flow in a Thin Tube with Thin Stiff Elastic Wall*, **J. Math. Fluid Mech. 22**(2020), Article number: 20

26. D. Tiba *Implicit parametrizations and applications in optimization and control*, **Mathematical Control and Related Fields 10**(2020), pag. 455 – 470

27. D. Tiba, C.M. Murea *Topological optimization and minimal compliance in linear elasticity*, **Evolution Equations and Control Theory 9**(2020), pag. 1115 – 1131

28. N. Papageorgiou, V. Rădulescu, D. Repovš *Nonlinear nonhomogeneous singular problems*, **Calc. Var. Partial Diff. Eq.** (2020), 59:9

29. N. Papageorgiou, V. Rădulescu, D. Repovš *Positive solutions for nonlinear Neumann problems with singular terms and convection*, **J. Math. Pures Appl. (Journal de Liouville) 136** (2020), pag. 1 – 21

30. V. Ambrosio, V. Rădulescu: *Fractional double-phase patterns: concentration and multiplicity of solutions*, **J. Math. Pures Appl. (Journal de Liouville) 142** (2020), pag. 101 – 145

31. C. Ji, V. Rădulescu: *Multiplicity and concentration of solutions to the nonlinear magnetic Schrödinger system*, **Calc. Var. PDE** (2020), 59:115

32. N. Papageorgiou, V. Rădulescu, D. Repovš *Existence and multiplicity of solutions for double-phase Robin problems*, **Bull. London Math. Soc. 52** (2020), pag. 546 – 560

33. N. Papageorgiou, V. Rădulescu, D. Repovš *Relaxation methods for optimal control problems*, **Bull. Math. Sci. 10** (2020), pag. 1 – 24

34. N. Papageorgiou, V. Rădulescu, D. Repovš *Ground state and nodal solutions for a class of double phase problems*, **Z. Angew. Math. Phys.** (2020), 71:15

35. N. Papageorgiou, V. Rădulescu, D. Repovš *Nonlinear, nonhomogeneous Robin problems with indefinite potential and general reaction*, **Applied Math. Optim. 81** (2020), pag. 823 – 857

36. A.I. Bonciocat, N.C. Bonciocat, Y. Bugeaud, M. Cipu, M. Mignotte: *Ireducibility criteria for compositions of multivariate polynomials*, **Publ. Math. Debrecen 97** (2020), pag. 321 – 337

37. A. Bahrouni, V. Rădulescu, P. Winkert *Ground state and nodal solutions for a class of double phase problems*, **Z. Angew. Math. Phys.** (2020), 71:183

38. A. Bahrouni, V. Rădulescu, P. Winkert *A critical point theorem for perturbed functionals and low perturbations of differential and nonlocal systems*, **Adv.Nonlinear St. 20** (2020), pag. 663 – 674

39. A. Diaconu: *Equivariant Euler characteristics of* $\overline{M}_{g,n}$, **Algebr. Geom. 7**(2020), pag. 523 – 543.

40. A. Bahrouni, V. Rădulescu, P. Winkert *Robin fractional problems with symmetric variable growth* , **J. Math. Phys. 61** (2020), 101503

41. C. Alves, V. Rădulescu *The Lane-Emden equation with variable double-phase and multiple regime*, **Proc. Amer. Math. Soc. 148** (2020), pag. 2937 – 2952

42. D. Kumar, V. Rădulescu, N. Sreenadh *Singular elliptic problems with unbalanced growth and critical exponent*, **Nonlinearity 33** (2020), pag. 3336 – 3369

43. S. Chen, V. Rădulescu, X. Tang, B. Zhang *Ground state solutions for quasilinear Schrödinger equations with variable potential and quasilinear reaction*, **Rev. Mat. Iber. 36** (2020), pag. 1549 – 1570

44. S. Liang, V. Rădulescu *Least-energy nodal solutions of critical Kirchhoff problems with logarithmic nonlinearity*, **Anal. Math. Phys.** (2020), 10:45

45. N. Papageorgiou, D. Qin, V. Rădulescu *Anisotropic double-phase problems with indefinite potential: multiplicity of solutions*, **Anal. Math. Phys.** (2020), 10:63

46. Cr. A-M. Anghel, N. Geer: *Modified Turaev-Viro Invariants from quantum* $sl(2|1)$ **Journal of Knot Theory and Its Ramifications 29.4** (2020) 2050018, (47 pag)

47. A. Constantinescu A., E. De Negri, M. Varbaro: *Singularities and Radical Initial Ideals*, **Bull. London Math. Soc., 52** (2020), pag. 674 – 686

48. Y. Liu, L. Maxim, B. Wang: *Perverse sheaves on semi-abelian varieties – a survey of properties and applications*, **Eur. J. Math. 6** (2020), pag. 977 – 997

49. L. Maxim, J. Schürmann: *Plethysm and cohomology representations of external and symmetric products*, **Adv. Math. 375** (2020), 107373, 54 pp.

50. L. Maxim, J. Rodriguez, B. Wang: *Defect of Euclidean distance degree*, **Adv. in Appl. Math. 121** (2020), 102101, 22 pp.

51. L. Maxim, J. Schürmann, M. Saito: *Spectral Hirzebruch-Milnor classes of singular hypersurfaces*, **Math. Ann. 377** (2020), pag. 281 – 315

52. L. Maxim, J. Schürmann, M. Saito: *Thom-Sebastiani theorems for filtered D-modules and for multiplier ideals*, **Int. Math. Res. Not. IMRN 2020** (2020), pag. 91 – 111

53. L. Maxim, J. Rodriguez, B. Wang: *Euclidean distance degree of the multiview variety*, **SIAM J. Appl. Algebra Geom. 4** (2020), pag. 28 – 48

54. F. Ambro: *Successive minima of line bundles*, **Adv. Math. 365**(2020), 107045

55. M. Maican: *Moduli of stable sheaves supported on curves of genus three contained in a quadric surface*, **Adv. Geom. 20** (2020), pag. 507–522

56. M. Maican: *Moduli of sheaves supported on curves of genus four contained in a quadric surface*, **J. Algebra 562** (2020), pag. 148–187

57. V. Brinzanescu, A. Nicoara: *Correction to: On the relationship between D'Angelo q-type and Catlin q-type*, **J. Geom. Anal. 30** (2020), pag. 1171 – 1172

58. M. Aprodu, G. Casnati, L. Costa, R. M. Miró-Roig, M. Teixidor i Bigas: *Theta divisors and Ulrich bundles on geometrically ruled surfaces*, **Ann. Mat. Pura Appl. 199** (2020), pag. 199 – 216

59. R. Pantilie: *Projective structures and ρ-connections*, **J. Inst. Math. Jussieu 19** (2020), pag. 571–579

60. G. Deschamps, E. Loubeau, R. Pantilie: *Harmonic maps and twistorial structures*, **Mathematika 66** (2020), pag. 112–124

61. M. Aprodu, Y. Kim: *On the Borisov-Nuer conjecture and the image of the Enriques-to-K3 map*, **Math. Nachr., 293** (2020) pag. 1044 – 1052

62. M. Prunescu *The exponential diophantine problem for $\mathbb{Q}$ is undecidable*, **J. Symb. Logic**(2020), http://dx.doi.org/10.1017/jsl.2020.18.

63. Deepak, K. D.; Pradhan, Deepak Kumar; Sarkar, Jaydeb; Timotin, Dan: *Commutant lifting and Nevanlinna-Pick interpolation in several variables*, **Integral Equations Operator Theory 92**(2020), Paper 27, 15p.

64. J. Li, A. Tamazyan, A. Zaharescu: *Ducci iterates and similar ordering of visible points in convex regions*, **Int. J. Number Theory 16**(2020), pag. 1 – 28

65. H. M. Bui, K. Pratt, N. Robles, A. Zaharescu: *Breaking the 1/2-barrier for the twisted second moment of Dirichlet L-functions*, **Adv. Math. 370**(2020), pag. 1 – 40

66. A. Dunn, B. Kerr, I. E. Shparlinski, A. Zaharescu: *Bilinear forms in Weyl sums for modular square roots and applications*, **Adv. Math. 375**(2020), pag. 1 – 58

67. R. Diaconescu: *Introducing* H*, an institution-based formal specification and verification language*, **Logica Universalis 14(2)** (2020), pag. 259 – 277

68. I. Gruais, D. Poliševski, A. Ştefan: *Two-temperature homogenized eigenfunctions of conduction through domains with jump interfaces*, **Appl. Anal. 99**(2020), pag. 2361 – 2370

69. M. Colţoiu, C. Joiţa *Some problems related to the Levi problem for Riemann domains over Stein spaces*, **Complex Var. Elliptic Equ. 65**(2020), pag.713–716.

70. L. Beznea, I. Cîmpean, and M. Röckner: *A natural extension of Markov processes and applications to singular SDEs*, **Ann. Inst. H. Poincaré, Probab. Statist. 56** (2020), pag. 2480–2506

71. L. Beznea, O. Lupaşcu-Stamate, C.I. Vrabie: *Stochastic solutions to evolution equations of non-local branching processes*, **Nonlinear Anal. 200** (2020)

72. L. Beznea, A.-M. Boeangiu, O. Lupaşcu-Stamate: *h-transform of Doob and nonlocal branching processes*, **Anal. Math. Phys. 10** (2020), 47

73. A. Dimca, D. Ibadula, A. Macinic *Numerical invariants and moduli spaces for line arrangements*, **Osaka J. Math., 57** (2020), 847-870.

74. S.Rusconi, D. Dutykh, A. Zarnescu, D. Sokolovski, E. Akhmatskaya, *An optimal scaling to computationally tractable dimensionless models: study of latex particles morphology formation.*, **Comput. Phys. Comm. 247** (2020), Art. 106944

75. G. Canevari, A. Zarnescu *Design of effective bulk potentials for nematic liquid crystals via colloidal homogenisation*, **Math. Models Methods Appl. Sci.30** (2020), 309-342

76. G. Di Fratta, J.M. Robbins, V. Slastikov, A. Zarnescu *Landau-de Gennes corrections to the Oseen-Frank theory of nematic liquid crystals.*, **Arch. Ration. Mech. Anal.236** (2020), 1089-1125.

77. R. Ignat, L. Nguyen, V. Slastikov, A. Zarnescu *Symmetry and multiplicity of solutions in a two-dimensional Landau-de Gennes model for liquid crystals.*, **Arch. Ration. Mech. Anal. 237** (2020), 1421-1473.

78. R. Ignat, L. Nguyen, V. Slastikov, A. Zarnescu *On the uniqueness of minimisers of Ginzburg-Landau functionals.*, **Ann. Sci. Éc. Norm. Supér. (4) 237** (2020), 1421-1473.

79. S. Aberkane, V. Drăgan: *On the existence of the stabilizing solution of a class of periodic stochastic Riccati equations*, **IEEE Trans. on Aut. Control, 65 (3)**,(2020), pag. 1288 – 1294

80. V. Drăgan, I.G. Ivanov: *On the stochastic linear quadratic control problem with piecewise constant admissible controls*, **J. Franklin Inst., 357**, (2020), pag. 1532 – 1559.

81. V. Drăgan, S. Aberkane, T. Morozan: *On the bounded and stabilizing solution of a generalized Riccati differential equation arising in connection with a zero-sum linear quadratic stochastic differential game*, **Optimal Control Appl. Methods, 41**, (2020), pag. 640 – 667.

82. E. Mihailescu, M. Urbański, *Skew product Smale endomorphisms over countable shifts of finite type*, **Ergodic Theory Dynam. Systems 40** (2020), 11, 3105-3149.

83. S. Aberkane, V. Drăgan: *On the existence of the stabilizing solution of generalized Riccati equations arising in zero-sum stochastic difference games: the time-varying case*, **J. Difference Equ. Appl., 26**, (2020), pag. 913 – 951.

84. A. Lőrincz, C. Raicu:*Iterated local cohomology groups and Lyubeznik numbers for determinantal rings*, **Algebra Number Theory 14**(2020), 2533–2569

85. A.A. Popa *An elementary proof of the Eichler-Selberg trace formula*, **J. Reine Angew. Math. 762** (2020), pag. 105 – 122

86. F. Nichita: *Non-Associative Structures and Other Related Structures*, **Axioms** (2020), 9, 40.

87. F. Nichita: *Mathematics and Poetry · Unification, Unity, Union*, **Sci** (2020), 2, 58.

88. F. Nichita: *Mathematics and Poetry · Unification, Unity, Union*, **Sci** (2020), 2, 72.

89. D. Beltiţă, H. Grundling, K.-H. Neeb: *Covariant representations for possibly singular actions on C^*-algebras*, **Dissertationes Math. 549** (2020), pag. 1–94.

90. I. Chifan, B. Udrea: *Some rigidity results for II_1 factors arising from wreath products of property (T)*, **J. Funct. Anal. 278** (2020), 108419.

91. G. Bădiţoiu: *Classification of homogeneous Einstein metrics on pseudo-hyperbolic spaces*, **Transf. Groups 25**(2020), pag. 335 – 361

92. T. Bayraktar, D. Coman, G. Marinescu: *Universality results for zeros of random holomorphic sections*, **Trans. Amer. Math. Soc. 373** (2020), pag. 3765 – 3791

93. L. Ioos, W. Lu, X. Ma, G. Marinescu: *Berezin-Toeplitz quantization for eigenstates of the Bochner Laplacian on symplectic manifolds*, **J. Geom. Anal. 30**(2020), 2615 – 2646

94. A.L Agore, G. Militaru: *A new invariant for finite dimensional Leibniz/Lie algebras*, **J. Algebra 562**(2020), pag. 390 – 409

95. A. Elesenhans, J. Klüners, F. Nicolae: *Imaginary quadratic number fields with class groups of small exponent*, **Acta Arith. 193**(2020), pag. 217 – 233

96. D. Arcoya, C. Bereanu, P.J. Torres: *Lusternik - Schnirelman theory for the action integral of the Lorentz force equation*, **Calc. Var. P.D.E. 59**(2020), art. 50, pag. 1 – 32

97. L. Ornea, M. Verbitsky: *Hopf surfaces in locally conformally Kaehler manifolds with potential*, **Geom. Dedicata 207** (2020), pag. 219–226.

2.2 În reviste din România cotate ISI

1. P. Cojuhari, A. Gheondea: *On generalised triplets of Hilbert spaces*, **Proc. Rom. Acad. Ser. A Math. Phys. Tech. Sci. Inf. Sci. 21**(2020), pag. 213–220.

2. M. Barcău, V. Pasol: *On The Ind-CPA Security Of Ring Homomorphic Encryption Schemes Over* $\mathbb{F}_2$, **Proc. Rom. Acad., Series A 21**(2020), pag. 3 – 10

3. F. Stan: *Siegel-type limit points above the PSZ curve*, **Bull. Math. Soc. Sci. Math. Roumanie 63**(2020), pag. 95 – 103

2.3 În alte reviste

1. L. David, C. Hertling: *(TE)-structures over the irreducible 2-dimensional globally nilpotent F-manifold germ*, **Rev. Roumaine Math. Pures Appl. - 65** (2020), pag. 235 – 284.

2. E. Artal-Bartolo, D. Matei, J.I.Cogolludo-Agustin, *Characteristic varieties of graph manifolds and quasi-projectivity of fundamental groups of algebraic links*, **Eur. J. Math. 6**, (2020), 624–645.

3. L. Maxim: *Topological methods in algebraic geometry and algebraic statistics*, **Rev. Roumaine Math. Pures Appl. 65** (2020), pag. 311 – 325

4. D.Tiba, M. Yamamoto: *A parabolic shape optimization problem*, **Ann. Acad. Rom. Sci. Ser. Math. Appl. 12** (2020), pag. 312 – 328

5. V. Brinzanescu: *Vector bundles on non-Kaehler elliptic surfaces and integrable systems*, **Revue Roum. Math. Pures Appl.** (2020), no. 4, pag.

6. G. Paşa: *The multi-layer Hele-Shaw model with constant viscosity fluids can not minimize the Saffman-Taylor instability*, **Int. Journal Appl. Math. 33** (2020), pag. 697 – 709.

7. M. Fulger: *Cones of positive vector bundles*, **Rev. Roumaine Math. Pures Appl. 65** (2020), 285–302

8. M. Aprodu, V. Vuletescu: *Indecomposable filtrable vector bundles on Oeljeklaus-Toma manifolds*, **Rev. Roumaine Math. Pures Appl., 65** (2020), pag. 227 – 234

9. F. Ambro: *An injectivity theorem II*, **Rev. Roum. Math Pures Appl. 65(3)** (2020), pag. 205 – 225

10. A. Gheondea: *The classical SIR model in epidemiology*, **Gazeta Matematică Seria A 38** (2020), pag. 10 – 18.

11. C. Joiţa, M. Tibăr: *Images of analytic map germs and singular fibrations*, **European J. Math. 6** (2020), pag. 888–904.

12. Timotin, Dan: *The invariant subspaces of* $S \oplus S^*$, **Concrete Operators** (2020), pag. 116–123.

13. G. Canevari, A. Zarnescu *Polydispersity and surface energy strength in nematic colloids.*, **Math. Eng. 2** (2020), 290-312.

2.4 În volume de conferinţe

1. D. Popescu *The Bass-Quillen Conjecture and Swan Question*, **Combinatorial structures in algebra and geometry**, Constanta, 26 August-1 Septembrie, 2018, editori: Dumitru Stamate, Thomasz Szemberg, Springer Proceedings in Mathematics and Statistics Series (2020), pag. 115 – 122, ISBN:978-3-030-52110-3

2. M. Cimpoeaş, D. Stamate: *Gröbner-nice pairs of ideals*, **Combinatorial Structures in Algebra and Geometry, Springer Proceedings in Mathematics & Statistics vol. 331**, editori: D.I. Stamate, T. Szemberg, Springer, Cham. (2020), pag. 15 – 29 ISBN: 978-3-030-52110-3

3. C. Anghel, N. Buruiană, D. Cheptea: *Lie Theory and Infinitesimal Extensions in Algebraic Geometry*, **Proc. XIII Int. Workshop Lie Theory and Appl. Physics**, XIII International Workshop Lie Theory and Its Applications in Physics, Varna Bulgaria, 17-23 iunie 2019, ed. V. Dobrev, Springer Proceedings in Mathematics and Statistics (2020), pag. 527 – 534 ISBN: 978-981-15-7774-1

4. D. Beltiţă, A. Odzijewicz: *Standard groupoids of von Neumann algebras.* **Geometric Methods in Physics XXXVIII**, XXXVIII Workshop on Geometric Methods in Physics, Białowieża, Polonia, 30 iunie – 6 iulie 2019. Birkhäuser, Basel (2020), pag. 31–39. ISBN: 978-3-030-53305-2

3 Volume editate în 2020

3.1 In străinătate

1. J. Kleijn, L. Leuştean, D. Lucanu: *Special Issue on The Working Formal Methods Symposium (FROM 2018)*, IOS Press (2020), Fundamenta Informaticae 173, no. 2-3, pag. 91 – 251 ISSN: 1875-8681

2. Jean-Pierre Demailly, Tien-Cuong Dinh, Le Mau Hai, Pham Hoang Hiep, Ha Huy Khoai, Xiaonan Ma, George Marinescu, Thomas Peternell, Nessim Sibony: *Acta Math. Vietnam. 45 (2020), no. 1, Special issue: Nevanlinna theory and complex geometry*

3. S. Krantz, V. Rădulescu: *Special Issue ‘ Perspectives of Geometric Analysis in PDEs, Journal of Geometric Analysis, vol. 30*, No. 2, Springer (2020), pag. 1411 – 2289. ISSN: 1559-002X

4. Florin Felix Nichita (Ed.) : *Non-associative Structures and Other Related Structures*, MDPI (2020), 106 pag., ISBN 978-3-03936-254-7 (Pbk); ISBN 978-3-03936-255-4 (PDF) https://doi.org/10.3390/books978-3-03936-255-4

3.2 În ţară

1. Hari Bercovici, Dumitru Gaşpar, Dan Timotin, Florian-Horia Vasilescu: *#OperatorTheory27, Conference Proceedings, Timişoara, July 2018*, Fundaţia Theta (2020), 269 pag., ISBN: 978-606-8443-12-6.

4 **Citări** (Lista completă este anexată)

- Citări apărute în 2019 şi neconţinute în Raportul pe 2019
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5 Premii

5.1 Premiile Academiei Române

Premii acordate în 2020 pentru lucrări din 2018.

- Florin Nicolae - Premiul Gheorghe Lazăr 2018
- Iulian Cîmpean - Premiul Simion Stoilow 2018

5.2 Alte premii

- L. Maxim: Van Vleck Professorship Research Award, University of Wisconsin-Madison, 2019 - 2023
- A. Neguţ: MIT Charles E. Reed Faculty Initiatives Award, 2020
- V. Rădulescu: Highly Cited Researcher 2019, Clarivate Analytics
- V. Rădulescu: First Prize of the Rector of the AGH University of Science and Technology, Krakow

6 Conferinţe

6.1 Organizări de conferinţe

1. A. Sipoş: Proof and Computation in Mathematics Minisymposium (parte din DMV Annual Meeting 2020; online), Chemnitz, 14 septembrie 2020,
   https://www.tu-chemnitz.de/mathematik/dmv2020/minisymp.php
2. F. Rădulescu: Geometric Analysis and Potential Theory Discrete and Continuous a conference on the occasion of Massimo Picardello's 70th birthday Perugia, Italy, February 17-19, 2020 ,
   https://www.math.tugraz.at/massimo70/
3. L. Ignat: VII jornadas de Analisis Matematico Alicante, 15-17/01/2020,
   https://dmat.ua.es/es/actividades/vii-jornadas-de-analisis-m atematico.html

4. A. Negut: Workshop on Soergel Bimodules and Categorification of the Braid Group ICERM, Providence, Feb 28-Mar 1, 2020,
https://icerm.brown.edu/events/htw-20-sbcb/

5. L. Maxim: *Singularities in the Midwest Workshop, VII.*, Madison, WI, 20-21 martie 2020, (anulat din cauza Covid-19),
http://www.math.wisc.edu/∼maxim/Sing20.html

6. L. Maxim *Suzhou Workshop on Geometry, Combinatorics and Representation Theory*, Soochow University, Suzhou, China, 6-9 iulie 2020 (amanat pentru 2021),
http://www.math.wisc.edu/∼maxim/Suzhou20.html

7. R. Răsdeaconu: *Real Enumerative Geometry and Beyond* - Shanks Workshop, Vanderbilt University, Nashville, TN, USA, 6-7 martie, 2020
adresa web: https://my.vanderbilt.edu/rag2020//

8. L. Beznea: *Série de vidéo conférences MATH-ADORE*, în cadrul Centrului Francofon de Matematică (AUF) de la IMAR, prima expunere, "Mathématiques et mouvement des organismes aquatiques" (Marius Tucsnak, Univ. Bordeaux, Franţa), 10 iulie 2020 (co-organizator), http://www.imar.ro/ imar/2020/anunturi/conf-tucsnak.html

9. L. Beznea: *Atelier de travail en Stochastique et EDP*, Bucureşti, 20-21 octombrie 2020, video conferinţă, (co-organizator),
http://imar.ro/CFM/2020/EDP-Stochastique-Oct2020.pd

10. D. Ionescu-Kruse: Membru în colectivul ştiinţific al conferinţei "Le XV-e Colloque Franco-Roumain de Mathématiques Appliquées", Braşov, România, 24 - 28 august 2020
https://15colfrro.sciencesconf.org/

11. A. Otiman: Conformal Structures in Geometry, 16 iulie 2020, Platforma Zoom (co-organizator cu N. Istrati şi M. Pontecorvo)
https://gecogedi.dimai.unifi.it/event/1031/

6.2 Conferinţe şi expuneri susţinute

1. L. Maxim, *Homological duality: jumping loci, propagation, realization*, la "Arrangements at Home, II: Cohomology Jump Loci", Online Workshop, 11-12 iunie 2020.

2. L. Maxim, *Homological duality: jumping loci, propagation, realization*, la "16th International Workshop on Real and Complex Singularities", Online Workshop, 23-30 noiembrie 2020.

3. M. Aprodu, *Green's conjecture and vanishing of Koszul modules*, Zoom Algebraic Geometry Marathon (online), 1 Septembrie 2020.

4. V. Brînzănescu, *Gauduchon metrics and stability*, Workshop online Univ. Roma 3, July, 16, 2020.

5. F. Rădulescu, *Operators Algebras and unitary representations of p-adic groups*, Perugia, Italy, February 17-19, 2020.

6. V. Brînzănescu, *Can we do research without mathematics?*, Humboldt Kolleg Bucharest, November, 18-22, 2020.

7. M. Staic, *The Exterior Operad*, Algebra Seminar BGSU, February 11 and February 18, 2020.

8. Al. Constantinescu, *Singularities and Radical Initial Ideals* One Day Workshop on Commutative Algebra and Related Fields, 1.9.2020, Constanţa, Romania.

9. A. Sipoş, *Quantitative inconsistent feasibility for averaged mappings*, Days in Logic 2020 (Lisabona, Portugalia), 30 ianuarie - 1 februarie 2020.

10. A. Sipoş, *Two recent results in proof mining*, MFO Workshop no. 2046 (on 'Mathematical Logic: Proof Theory, Constructive Mathematics'; online; Oberwolfach, Germania), 8-14 noiembrie 2020.

11. L. Ignat, *Asymptotic behavior of solutions for some local and nonlocal diffusion problems on metric graphs*, (virtual) seminar in Hagen, COST partener Delio Mugnolo, 21/10/2020

12. L. Ignat, *Asymptotic behavior of solutions for local and nonlocal diffusion on metric graphs*, virtual International conference on applied mathematics and numerical methods, October 29-31, 2020, Craiova, Romania.

13. V. D. Rădulescu, *New phenomena in anisotropic double-phase problems*, Center for Applied Mathematics, Guangzhou University, 8 July 2020

14. D. Timotin, *Algebras of block Toeplitz matrices with commuting entries*, prezentare online la seminarul de teoria operatorilor de la Univ. Lille, iunie 2020.

15. V. D. Rădulescu, *From nonlinear analysis to mathematical physics and beyond*, East China University of Science and Technology, Shanghai, 21 September 2020

16. A. Popa, *Multiple Dirichlet series for affine Weyl groups*, Online conference in automorphic forms, 1-5 iunie 2020, Budapest

17. Miron Stanciu, *Compatibility between non-Kähler structures on complex (nil)manifolds*, Seminarul de Geometrie al Institutului de Matematică al Academiei Române (online), 9 iunie 2020.

18. M. Stanciu, *Locally conformally symplectic reduction*, Conferinţa Şcolii Doctorale din Consorţiul Universitaria (online), 22-23 octombrie 2020.

19. A. Popa, *Affine Weyl group Multiple Dirichlet Series*, IMAR monthly lecture, 15 ianuarie 2020

20. V. D. Rădulescu, *Double phase problems with variable exponents and mixed regime*, International Conference on Applied Mathematics and Numerical Methods, Craiova, 29 October 2020

21. R. Purice, *Spectral analysis of the bottom of the spectrum of a 2-dimensional periodic magnetic Hamiltonian*, Mathematical Challenge of Quantum Transport in Nanosystems, International Conference, Saint Petersburg, 14 – 16 Septembrie, 2020 (video-conferinţă on-line).
http://mathdep.ifmo.ru/mcqtn2020/

22. A. Gheondea: *Generalized Lebesgue-Radon-Nikodym Decompositions*, Analysis Seminar, Department of Mathematics, Bilkent University, Ankara, 21.04.2020, 16:00-17:00.

23. A. Gheondea: *Gaussian Reproducing Kernels*, Analysis Seminar, Department of Mathematics, Bilkent University, Ankara, 13.10.2020, 15:00–16:00.

24. I. Beltiţă, *C^*-algebras of solvable Lie groups and their finite-dimensional approximation properties*, International Conference on Noncommutative Analysis Ghent Analysis and PDE Center, Ghent University, via ZOOM, 18-20 August 2020.

25. I. Ţuţu, J.L. Fiadeiro, C.E. Chiriţă, *Dynamic reconfigurations through hybrid lenses*, 25th International Workshop on Algebraic Development Techniques, workshop virtual, 29 aprilie 2020.

26. A. Zărnescu, *Half-integer point defects in nematic liquid crystals* , Old Dominion University, webminar 5 Noiembrie 2020

27. D. Beltiţă, *Finite-dimensional approximations of convolution operators on groups*, Functions and Operators, 10 years after (FaO2020), 15 – 17 iulie 2020, Jagiellonian University, Cracovia, Polonia (online: http://fao2k20.im.uj.edu.pl/).

28. V. Drăgan, *On the optimal filtering of signals generated by linear systems subjected to multiplicative and additive white noise perturbations - An overview*, 19 Februarie 2020, Conferinţa lunară la IMAR.

29. A. Diaconu, *Secondary terms in the asymptotics of moments of L-functions*, prezentare Zoom în cadrul conferinţei *Online Conference in Automorphic Forms*, 1 Iunie - 5 Iunie, 2020.

30. V. Drăgan, *On the Stochastic Linear Quadratic optimal regulator by Piecewise Constant Admissible Controls. The infinite time horizon case*, The online Conference AMEFSS 2020, 28 June -2 July 2020, Plovdiv University and Sofia University, Bulgaria.

31. D. Matei, *Homology of Artin Kernels*, Topology Seminar, iunie 2020, University of Tokyo.

32. S. Moroianu, *Integrality properties of eta invariants*, Makerere University Mathematics Seminar, 25 februarie 2020.

33. C. Raicu, *Equations and syzygies for varieties of binary forms*, Mathematics Department Colloquium, Cleveland State University, November 2020.

34. C. Raicu, *Equations and syzygies for varieties of binary forms*, AMS special session on Recent Developments in Commutative Algebra, University of Texas at El Paso, September 2020.

35. C. Raicu, *Equations and syzygies for varieties of binary forms*, Joint Colloquium: Northwestern University, the University of Chicago, and the University of Illinois at Chicago, August 2020.

36. C. Raicu, *The syzygies of some thickenings of determinantal varieties*, ICERM workshop on Free Resolutions and Representation Theory, August 2020.

37. C. Raicu, *Commutative Algebra with $\mathfrak{S}_n$-invariant monomial ideals*, Fellowship of the Ring Seminar, MSRI, May 2020.

38. C. Raicu, *Regularity of $\mathfrak{S}_n$-invariant monomial ideals*, Algebra, Geometry and Combinatorics Day, University of Illinois at Urbana–Champaign, March 2020.

39. C. Raicu, *Regularity of $\mathfrak{S}_n$-invariant monomial ideals*, Commutative algebra and Combinatorics Seminar, University of Bucharest, Romania, January 2020.

40. M. Buliga, *Molecular computers in artificial chemistry*, Natural Computation Research Group, Univ. Aix-Marseille, France, aprilie 2020.

41. M. Buliga, *Chemlambda*, Recursive Distinctioning Seminar, Univ. of Chicago, US, mai 2020.

42. M. Buliga, *Emergent rewrites in knot theory and logic*, Knots2020: Conference on Physical Knotting, Vortices and Surgery in Nature, Novosibirsk, Russia, iunie 2020.

43. M. Buliga, *Pure See, a lambda calculus for space*, Recursive Distinctioning Seminar, Univ. of Chicago, US, iunie 2020.

44. M. Buliga, *Zipper logic revisited*, Quantum Topology Seminar, Univ. of Chicago, US, septembrie 2020.

45. I. Cîmpean, *On the construction of Hunt processes with applications to Mehler semigroups*, Atelier de travail en Stochastique et EDP, Bucuresti, 20-21 octombrie 2020 (online).

46. A. Otiman, *Dolbeault cohomology of Cousin groups and OT manifolds*, Univ. Ludwig Maximilians, München, decembrie 2019.

47. A. Otiman, *Special non-Kähler metrics on solvmanifolds*, Virtual Seminar on geometry with symmetries (online), noiembrie 2020

48. A. Otiman, *Special non-Kähler metrics on complex manifolds*, Univ. Firenze (online), noiembrie 2020

7 Alte activităţi

7.1 Conducere granturi

- L. Păunescu - Director de proiect al grantului PN-III-P1-1.1-TE-2019-0262, 15.09.2020-14.09.2022.

- I. Cimpean - Director grant PN-III-P1-1.1-PD-2019-0780, 01.09.2020–31.08.2022, finantat de UEFISCDI.

- O. Preda - Director de proiect grant PN-III-P1-1.1-PD-2016-0182, etapa III: perioada 01.01 - 30.04.2020.

- A. Sipoş - Director de proiect grant PN-III-P1-1.1-PD-2019-0396,01.09.2020–31.08.2022, finantat de UEFISCDI.

- L. Maxim - Topology of complex algebraic varieties, $09/2018 - 08/2023$, Simons Foundation Collaboration Grants for Mathematicians (USA).

- A. Neguţ - NSF CAREER Award no. 1845034

- C. Raicu - NSF Award DMS - 1901886.

- V. Rădulescu - Analysis of continuous and discrete mathematical models in biology, chemistry and genetics, Grant N1-0064 finanţat de ARRS (Slovenian Research Agency)

- L. Beznea - Coordonator şi R. Purice - Secretar Ştiinţific - Centre francophone en matématiques Bucarest-IMAR, finanţat de Biroul Europa Centrală şi Orientală al Agenţiei Universitare a Francofoniei.
  http://www.imar.ro/CFM/

- R. Purice - Coordonator Român al Reţelei Internaţionale GDRI ECO-Math, finanţată de CNRS (Franţa), Academia Română şi de IMAR.
  http://imar.ro/GDRI/

- R. Diaconescu - grant PN-III-P2-2.1-PED-2019-0955, *Verificare Formală Bazată pe Componente*.

- A. Agore - Director grant PN-III-P1-1.1-TE-2016-0124, 01.10.2018-30.09.2020.

- M. Fulger - grant 579353 Simons Foundation, Mathematics and Physical Sciences - Collaboration Grants for Mathematicians, Septembrie, 2018– August 2022

- V. Lie - National Science Foundation Grant No. DMS-1900801

- R. Răsdeaconu - Grant NSF (DMS - 1804586) pentru organizarea conferinţei *Real Enumerative Geometry and Beyond*, Shanks Workshop, March 6-7, 2020, Vanderbilt University.

- R. Răsdeaconu - Grant NSF (DMS - 1804586) pentru organizarea conferinţei *Complex Differential Geometry*, Shanks Workshop, March 2-3, 2018, Vanderbilt University.

- I. Nenciu - *Midwest Partial Differential Equations Seminar (DMS-1800839)*, grant pentru organizarea unei serii de conferinte bianuale, 2018–2021, National Science Foundation, USA.

- I. Nenciu - *On confinement and other long time behaviors in mathematical physics and integrable systems*, grant de cercetare 709025, Simons Foundation, 2020 – 2025.

7.2 Conducere doctorate

- R. Stavre - Doctorand Alexandra Roxana Ciorogar în cadrul SCOSAAR
- R. Diaconescu - Doctorand Alexandru Ioniţă în cadrul SCOSAAR
- V. Brînzănescu - Doctorand Maria-Cristina Sandu în cadrul SCOSAAR.
- L. Beznea - Doctoranzi Ştefania Aniţa, Ana-Maria Boeangiu, Adela Popescu şi Alexandra Teodor în cadrul SCOSAAR
- R. Purice - Doctorand Alexandru Mustăţea în cadrul SCOSAAR
- L. Ignat - Doctorand Andreea Grecu, Cotutelă cu Liviu Marin la Univ. Bucureşti
- L. Maxim - Doctorand Alexander Hof, University of Wisconsin-Madison (USA)
- A. Zărnescu - Doctorand Răzvan Ceucă, in cadrul BCAM, Spania
- M. Aprodu - Doctorand Laura Filimon la Univ. Bucureşti şi M. Pavel la Univ. Lorraine Nancy în cotutelă cu Matei Toma
- G. Paşa - începând din iunie 2020 conducător ştiinţific al tezei de doctorat elaborate de doamna Liliana Dumitru
- A. Neguţ - Doctorand Yu Zhao la Massachusetts Institute of Technology
- C. Raicu - Doctoranzi Michael Perlman, Zhao Gao, Lizda Nazdira Moncada Morales, Paul LeVa, Jacob Zoromski şi Juan Lanfranco la Univ. of Notre Dame.
- I. Nenciu - Doctorand Ryan Obermeyer la University of Illinois at Chicago.
- V. Lie - Doctorand Alejandra Gaitan la Purdue Univ.
- E. Mihăilescu - Doctorand Rodica Marineac în cadrul SCOSAAR
- S. Moroianu - Doctoranzi Cipriana Anghel şi George-Rareş Stan în cadrul SCOSAAR

7.3 Membru în colective editoriale

- L. Beznea - *Advances in Pure and Applied Mathematics*, De Gruyter, *Revue Roumaine Math. Pures Appl., Math. Reports*, (co-editor şef), Ed. Academiei Romane - *Proc. Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science*, Ed. Academiei Romane
- Cezar Joiţa - Secretar ştiinţific al comitetului de redacţie la *Revue Roumaine de Mathématiques Pures et Appliquées* şi *Mathematical Reports*.
- M. Cipu - *Bulletin Mathématique de la Société des Sciences Mathématiques de Roumanie* şi *Gazeta Matematică, Seria A*.

- C. Năstăsescu - *Mathematical Reports, Revue Roumaine des Mathématiques Pures et Appliquées, Bulletin Mathématique de la Société des Sciences Mathématiques de Roumanie, Analele Universităţii din Bucureşti, Seria Matematică, Analele Ştiinţifice ale Universităţii "Ovidius" din Constanţa, Seria Matematică, Analele Universităţii din Craiova, Seria Matematică - Informatică, Mathematica (Cluj).*

- M. Aprodu - *Revue Roumaine Math. Pures Appl., Math. Reports*

- D. Tiba - *Mathematics and its Applications", Annals of ARS, Bucharest, Recreatii Matematice, Iasi, Mathematical Reports, Scientific Bulletin, ser. A (Bucharest), International Journal of Differential Equations, Bulletin of the South Ural Univ. , Mathematica, Romanian Academy, Cluj, Proceedings of the Romanian Academy, Mathematics*

- V. Rădulescu - *Mathematics in Science and Engineering Book Series* Academic Press, *De Gruyter Book Series in Nonlinear Analysis and Applications*, *Advances in Nonlinear Analysis* (Walter de Gruyter), *Boundary Value Problems* (Springer Open), *Journal of Mathematical Analysis and Applications* (Elsevier), *Mathematical Methods in the Applied Sciences* (Wiley), *Bulletin of Mathematical Sciences* (World Scientific), *Journal of Geometric Analysis* (Springer), *Asymptotic Analysis* (IOP Press), *Rendiconti del Circolo Matematico di Palermo* (Springer), *Demonstratio Mathematica* (Walter de Gruyter), *Complex Variables and Elliptic Equations* (Taylor & Francis), *Discrete and Continuous Dynamical Systems, Series S* (American Institute of Mathematical Sciences), *Journal of Mathematics and Applications* (Rzeszow University of Technology), *Advances in Pure and Applied Mathematics* (Walter de Gruyter), *Opuscula Mathematica* (AGH University of Science and Technology, Krakow), *Journal of Numerical Analysis and Approximation Theory* (Romanian Academy), *Ann. St. Univ. Ovidius Constanţa*

- V. Brînzănescu - *Bull. SSMR, An. Univ. Ovidius, Serdica J. Math.*.

- C. Beli - *Gazeta matematică, Seria A*

- A. Gheondea - *Journal of Operator Theory*, Fundaţia Theta, *Complex Analysis and Operator Theory*, Birkhäuser Verlag, Basel, *Opuscula Mathematics*, AGH University of Science and Technology, Krakow, *Journal of Function Spaces*, Hindawi Limited, London

- C. Ionescu - *Asia Mathematika*

- D. Timotin - *Journal of Operator Theory, Revue Roumaine de Mathématiques Pures et Appliquées, Mathematical Reports, Analele Ştiinţifice ale Universităţii "Alexandru Ioan Cuza" din Iaşi, Matematică*

- R. Diaconescu - *Studies in Universal Logic* book series at Springer Basel, Switzerland.

- M. Colţoiu - *Proceedings of the Romanian Academy, Series A, Acta Universitatis Apulensis*

- Călin Popescu - *Gazeta Matematică — Seria A.*

- D. Beltiţă - *Analele Ştiinţifice ale Universităţii ,,Al.I.Cuza" din Iaşi —Matematică*

- V. Drăgan - *International Journal of Innovative Computing, Information and Control (IJICIC), ICIC-Express Letters, IET Control Theory and Applications, Innovativity in Modeling and Analytics Journal of Research (IMAJOR), Annals Series on Mathematics and Its Application, Acta Universitatis Apulensis, Serie Mathematica Informatica* şi *Honorary Board of Romanian Itinerant Seminar on Math. Analysis and Applications*
- F. Rădulescu - *Libertas Matematicae, Journal of Operator Theory*
- I. Nenciu - *Nonlinearity*, London Mathematical Society.
- V. Timofte - *Australian Journal of Mathematical Analysis and Applications (AJMAA)*
- E. Mihailescu - *Discrete and Continuous Dynamical Systems-S*
- F. Nichita - *Axioms*, MDPI, *Sci*, MDPI
- L. Ornea - *Mathematical Reports, Revue Roumaine de Mathématiques Pures et Appliquées, Bulletin Mathématique de la Société des Sciences Mathématique de Roumanie* Am fost *Guest Editor* la Nr. 3/2020 al revistei Revue Roumaine, număr dedicat profesorului Vasile Brînzănescu la împlinirea a 75 de ani.
- G. Marinescu - *Annals of Global Analysis and Geometry, Analysis and Mathematical Physics*

7.4 Lucrări acceptate la publicat

1. C. Ionescu: *Finite generation of André-Quillen (co-)homology of F-finite algebras*, acceptată la Comm. Algebra
2. T. Dumitrescu, C. Ionescu: *A locally F-finite Noetherian domain that is not F-finite*, acceptată la J. Commut. Algebra
3. C. Anghel, I. Coandă, N. Manolache: *A property of five lines in $\mathbb{P}^3$ and four generated 4-instantons*, acceptată la Comm. Algebra.
4. C. Anghel, I. Coandă, N. Manolache: *Globally generated vector bundles with small c_1 on projective spaces, II*, acceptată la Math. Nachr.
5. H. Bercovici, D. Timotin: *Operators invariant relative to a completely nonunitary contraction*, acceptată la Math. Z.
6. C. Raicu: *Regularity of $\mathfrak{S}_n$-invariant monomial ideals*, arXiv: 1909.04650, acceptată la J. Comb. Theory Series A.
7. A.L. Agore: *Universal coacting Poisson Hopf algebras*, acceptată la Manuscripta Math.
8. A.L. Agore, A.S. Gordienko, J. Vercruysse: *Equivalences of (co)module algebra structures over Hopf algebras*, acceptată la J. Noncommut. Geom.
9. G. Nenciu, I. Nenciu, *On essential self-adjointness for first order differential operators on domains in $\mathbb{R}^d$.* acceptată la J. Spectral Theory.

10. A. I. Bonciocat, N. C. Bonciocat, Y. Bugeaud, M. Cipu, M. Mignotte: *Irreducibility criteria for compositions of multivariate polynomials over arbitrary fields*, acceptată la Publ. Math. Debrecen.

11. L. David, C. Hertling: *Meromorphic connections over F-manifolds*, acceptată la Integrability, Quantization, and Geometry (eds. I. Krichever, S. Novikov, O. Ogievetsky, S. Shlosman), Proc. of Symp. in Pure Math., AMS.

12. L. Liu, A. Makhlouf, C. Menini, F. Panaite: *BiHom-pre-Lie algebras, BiHom-Leibniz algebras and Rota-Baxter operators on BiHom-Lie algebras*, acceptată la Georgian Math. J.

13. H. Auvray, X. Ma, G. Marinescu: *Bergman kernels on punctured Riemann surfaces*, acceptata la Math. Ann.

14. W.Bruns, B. Ichim: *Polytope volume by descent in the face lattice and applications in social choice*, acceptată la Math. Program.

15. D. Popescu: *Néron desingularization of extensions of valuation rings with an Appendix by Kestutis Cesnavicius*, acceptată la Springer Collection PROMS, in Proc. Transient Transcendence in Transylvania 2019, Eds. Alin Bostan, Kilian Raschel.

16. Călin Popescu: *On 3-Colourable Disc Triangulations*, acceptată la Bull. Math. Soc. Sci. Math. Roumanie.

17. S. Carolus, J. Laubacher, M. Staic: *A Simplicial Construction for Noncommutative Settings*, acceptată la Homotopy, Homology Appl..

18. I. Gruais, D. Polišević : *Thermal flows in fractured porous media*, acceptată la ESAIM: Mathematical Modelling and Numerical Analysis.

19. S. Carolus, M. Staic: *G-Algebra Structure on the Higher Order Hochschild Cohomology $H^{S^2}(A, A)$*, acceptată la Algebra Colloq.

20. U. Kohlenbach, A. Sipoş: *The finitary content of sunny nonexpansive retractions*, acceptată la Communications in Contemporary Mathematics.

21. A. Sipoş: *Bounds on strong unicity for Chebyshev approximation with bounded coefficients*, acceptată la Math. Nachr.

22. L.Ignat, J. Rossi, A. San Antolin : *Asymptotic behaviour for local and nonlocal evolution equations on metric graphs with some edges of infinite length*, acceptată la Ann. Mat. Pura Applicata

23. D. Qin, V. Rădulescu, X. Tang *Ground states and geometrically distinct solutions for periodic Choquard-Pekar equations*, acceptată la J. Diff. Eq.

24. Y. Fang, V. Rădulescu, C. Zhang, X. Zhang *Gradient estimates for multi-phase problems in Campanato spaces*, acceptată la Indiana Univ. Math. J.

25. N. Papageorgiou, V. Rădulescu, D. Repovs *Robin double-phase problems with singular and superlinear terms*, acceptată la Nonlinear Anal. Real World Appl.

26. Y. Liu, L. Maxim, B. Wang: *Topology of subvarieties of complex semi-abelian varieties*, acceptată la Int. Math. Res. Not.

27. L. Maxim, J. Rodriguez, B. Wang: *Euclidean distance degree of projective varieties*, acceptată la Int. Math. Res. Not.

28. L. Maxim: *Notes on vanishing cycles and applications*, acceptată la J. Australian Math. Soc.

29. L. Jeanjean, V. Rădulescu: *Nonhomogeneous quasilinear elliptic problems: linear and sublinear cases*, acceptată la J. d'Analyse Math.

30. S. Chen, V. Rădulescu, X. Tang: *Normalized solutions of nonautonomous Kirchhoff equations: sub- and super-critical cases*, acceptată la Applied Math. Optimiz.

31. C. Ji, V. Rădulescu *Multi-bump solutions for quasilinear elliptic equations with variable exponents and critical growth in* $\mathbb{R}^N$, acceptată la Commun. Contemp. Math.

32. F. Eduard, E. Rocca, G. Schimperna, A. Zărnescu: Weak sequential stability for a nonlinear model of nematic electrolytes. *Weak sequential stability for a nonlinear model of nematic electrolytes*, acceptată la Discrete & Continuous Dynamical Systems - S.

33. V. Ambrosio, T. Isernia, V. Rădulescu: *Concentration of positive solutions for a class of fractional p-Kirchhoff type equations*, acceptată la Proc. Royal Soc. Edinburgh - Sect. A.

34. V. Rădulescu, X. Tang, Y. Zhang: *Small perturbations for nonlinear Schrödinger equations with magnetic potential*, acceptată la Milan J. Math.

35. M. Vâjâitu: *On Lebesgue decomposition of p-adic distributions*, acceptată la Publ. Math. Debrecen.

36. V. Alexandru, M. Vâjâitu, A. Zaharescu: *On the zeros and singularities of p-adic trace functions*, acceptată la Comm. Algebra.

37. G. Paşa: *Eigenvalues and approximation through simple functions* acceptată la Revue Roumaine Math. Pures Appl.

38. R. Pantilie: *Twistor theory for exceptional holonomy*, acceptată la Mathematika.

39. A. Otiman, M. Toma: *Hodge decomposition for Cousin groups and Oeljeklaus-Toma manifolds*, acceptată la Annali della Scuola Normale di Pisa.

40. N. Istrati, A. Otiman, M. Pontecorvo: *On a class of Kato manifolds*, acceptată la Int. Math. Res. Not. (IMRN)

41. D. Angella, N. Istrati, A. Otiman, N. Tardini: *Variational problems in conformal geometry*, acceptată la Journal of Geometric Analysis.

42. I. Ţuţu, C.E. Chiriţă, J.L. Fiadeiro: *When databases roamed computing: Formal database specification revisited*, acceptată la College Publications Tributes.

43. D. Ionescu-Kruse: *Analytical atmospheric Ekman-type solutions with height-dependent eddy viscosities*, acceptată la Journal of Mathematical Fluid Mechanics.

44. D. Ionescu-Kruse: *Fronts, pulses and periodic travelling waves in two-component shallow water models*, acceptată la Revue Romaine de Mathématiques Pures et Appliquées, un număr dedicat conferinţei "The Ninth Congress of Romanian Mathematicians", Galaţi, Romania, 2019.

45. M. Palmer: *Homological stability for moduli spaces of disconnected submanifolds, I*, acceptată la Algebraic & Geometric Topology

46. A. Debray, S. Galatius, M. Palmer: *Apendice de "Lectures on Invertible Field Theories" de S. Galatius* (capitol al unei cărţi), acceptată la IAS/Park City Mathematics Series

47. C. Anghel, I. Coandă, N. Manolache: *A property of five lines in P^3 and four generated 4-instantons*, acceptata la Comm. Algebra.

48. T. Dumitrescu, M. Epure: *A class of multiplicative lattices*, acceptată la Czech. Math. J.

49. C. Anghel, I. Coandă, N. Manolache: *Globally generated vector bundles with small c_1 on projective spaces, II*, acceptată la Math. Nachr.

50. I. Cîmpean, A. Grecu: *The nonlinear Schrödinger equation with white noise dispersion on quantum graphs*, acceptată la Commun. Math. Sci.

51. Cristian Cobeli: *DOI*[2], acceptată la Revue Roumaine de Mathématiques Pures et Appliqués.

52. L. Ornea, M. Verbitsky, V. Vuletescu: *Classification of non-Kähler surfaces and locally conformally Kähler geometry*, acceptată la Russian Math. Surveys.

53. C. Muscalu, Y.Zhai: *Five-linear singular integral estimates of Brascamp-Lieb type* acceptată la Anal. PDE.

54. C. Beli: *On the kernel of the projection map $T(V) \to S(V)$*, acceptată la Math. Rep.

7.5 Preprinturi elaborate în 2020

1. M. Cimpoeaş: *On a generalization of monomial groups*, https://arxiv.org/pdf/1910.12683, pag. 17

2. J. Bassi, F. Rădulescu: *Separable boundaries for non-hyperbolic groups*, preprint arXiv:2002.01466

3. M. Cimpoeaş: *A note on the action of Hecke groups on subsets of quadratic fields*, https://arxiv.org/2007.05941, pag. 6

4. D. Timotin: *The invariant subspaces of $S \oplus S^*$*, preprint Arxiv:2003.09399.

5. T. Dumitrescu, C. Ionescu: *A locally F-finite Noetherian domain that is not F-finite*, preprint arXiv 2006.06043, pag. 6.

6. N. C. Bonciocat, M. Cipu, M. Mignotte: *There is no Diophantine $D(-1)$–quadruple*, http://arxiv.org/abs/2010.09200

7. S. Burciu: *On the Galois symmetries for the character table of an integral fusion category*, arXiv:2005.13944./2020, pag. 28

8. G. Paşa: *An ill-posed problem in hydrodynamic stability of multi-layer Hele-Shaw flow*, arXiv:2008.12561.

9. S. Burciu: *Structure constants for pre-modular categories*, arXiv:2002.05483./2020, pag. 18.

10. V. Paşol, W. Zudilin: *Magnetic (quasi-) modular forms*, arXiv:2009.14609

11. L. David, C. Hertling: *(TE)-structures over the irreducible 2-dimensional globally nilpotent F-manifold germ*, arxiv:2001.01063 pag. 53.

12. G. Arsu: *T-Weyl calculus*, https://arxiv.org/abs/2011.05981

13. L. Liu, A. Makhlouf, C. Menini, F. Panaite: *Tensor products and perturbations of BiHom-Novikov-Poisson algebras*, preprint arXiv nr. 2007.09016/2020

14. B. Ichim, A. Zarojanu: *On the behavior of the size of a monomial ideal*, Preprint arXiv:1602.08025.

15. D. Popescu: *Immediate extensions of valuation rings and ultrapowers,* arXiv/2001.02930.

16. I. Chiose, M. Toma *Positive currents on non-Kählerian surfaces* , preprint arXiv:2006.09967

17. D. Popescu: *Valuation rings of dimension one as limits of smooth algebras,* arxiv/2006.08972.

18. C. Benea, C. Muscalu: *Mixed-norm estimates via the helicoidal method*, arXiv:2007.01080, 48 pages.

19. C. Cobeli, A. Zaharescu, *Factorials* $\pmod p$ *and the average of modular mappings*, preprint arXiv 2011.07582, pag. 9.

20. D. Popescu: *Valuation rings as limits of complete intersection algebras,* arxiv/2004.11004.

21. L. Leuştean, P. Pinto: *Quantitative results on a Halpern-type proximal point algorithm*, arXiv:2001.10040 pag. 22

22. M. Perlman, C. Raicu: *Hodge ideals for the determinant hypersurface*, arXiv: 2003.09874

23. A. Diaconu şi H. Twiss: *Secondary terms in the asymptotics of moments of L-functions*, preprint arXiv:2008.13297

24. I. Beltiţă, D. Beltiţă, *Traces of C^*-algebras of connected solvable groups*, Preprint arXiv: 2006.15941/2020, 8 pag.

25. C. Anghel, I. Coandă, N. Manolache: *Globally generated vector bundles with $c_1 = 5$ on $\mathbb{P}^n$, $n \geq 4$*, preprint arXiv:2002.07167, 40 pagini.

26. I. Beltiţă, D. Beltiţă, *AF-embeddability for Lie groups with T_1 primitive ideal spaces,* Preprint arXiv: 2004.11010, 21 pag.

27. G. Nenciu, I. Nenciu, R. Obermeyer: *Essential self-adjointness of symmetric first-order differential systems and confinement of Dirac particles on bounded domains in $\mathbb{R}^d$.* preprint arXiv:2010.09816.

28. H. Auvray, X. Ma, G. Marinescu: *Quotient of Bergman kernels on punctured Riemann surfaces*, preprint arXiv:2004.03858, pag. 26

29. T.-C. Dinh, G. Marinescu, D-V. Vu: *Moser-Trudinger inequalities and complex Monge-Ampère equation*, preprint arXiv:2006.07979, pag. 22

30. J. O'Rourke, C. Vîlcu: *Tailoring for Every Body: Reshaping Convex Polyhedra*, preprint arXiv:2008.01759; 62 pag.

31. M. Staic: *The Exterior Graded Swiss-Cheese Operad $\Lambda^{S^2}(V)$ (with an appendix by A. Gherman and M. Staic)*, preprint arXiv:2002.00520

32. M. Staic, J. Van Grinsven: *A Geometric Application for the det^{S^2} Map*, preprint arXiv:2009.13641

33. S. Aberkane, V. Drăgan: *On the existence of the stabilizing solution of generalized Riccati equations arising in zero sum stochastic difference games: The time-varying case*, preprint arhiva: https://arxiv.org/abs/2006.01486, pag. 33.

34. A. Sipoş: *Quantitative inconsistent feasibility for averaged mappings*, arXiv:2001.01513.

35. A. Sipoş: *Revisiting jointly firmly nonexpansive families of mappings*, arXiv:2006.02167.

36. A. Sipoş: *Construction of fixed points of asymptotically nonexpansive mappings in uniformly convex hyperbolic spaces*, arXiv:2008.03930.

37. A. Sipoş: *A quantitative multi-parameter mean ergodic theorem*, arXiv:2008.03932.

38. V. Timofte: *Hartogs companions and holomorphic extensions in arbitrary dimension*, preprint arXiv:2009.03086, pag. 31.

39. A. Sipoş: *Rates of metastability for iterations on the unit interval*, arXiv:2008.03934.

40. D. Tiba, C.M. Murea: *Implicit parametrizations in shape optimization: boundary observation*, preprint arXiv 2003.10384, 25 pag.

41. M. Palmer, U. Tillmann: *Homology of configuration-mapping and -section spaces*, arxiv.org/abs/2007.11607, 45 pag.

42. M. Palmer, U. Tillmann: *Point-pushing actions and configuration-mapping spaces*, arxiv.org/abs/2007.11613, 20 pag.

43. G. Horel, M. Palmer: *Motivic homological stability of configuration spaces*, arxiv.org/abs/2007.13718, 13 pag.

44. Cr. A.-M. Anghel, M. Palmer: *Lawrence-Bigelow representations, bases and duality*, arxiv.org/abs/2011.02388, 25 pag.

45. H. D. Cornean, B. Helffer, R. Purice: *Spectral analysis near a Dirac type crossing in a weak non-constant magnetic field*, arXiv:2005.08699, 62 pag.

46. D. Tiba, C.M. Murea: *Periodic Hamiltonian systems in shape optimization problems with Neumann boundary conditions*, preprint arXiv 2006.09098, pag. 25.

47. V. Timofte, A. Timofte, *On algorithms for testing positivity of symmetric polynomial functions*, arXiv:2011.04358.

48. K. Altmann, Al. Constantinescu, M. Filip: *Polyhedra, lattice structures, and extensions of semigroups*, arXiv:2004.07377, 51 pag.

49. K. Altmann, Al. Constantinescu, M. Filip: *Versal deformations of toric singularities* arXiv:2004.07377, 32 pag.

50. L. Maxim, L. Păunescu, M. Tibăr: *The vanishing cohomology of non-isolated hypersurface singularities*, preprint arhiva arXiv:2007.07064.

51. Y. Liu, L. Maxim, B. Wang: *Aspherical manifolds, Mellin transformation and a question of Bobadilla-Kollár*, preprint arhiva arXiv:2006.09295.

52. L. Maxim, L. Păunescu, M. Tibăr: *Vanishing cohomology and Betti bounds for complex projective hypersurfaces*, preprint arhiva arXiv:2004.07686.

53. E. Elduque, C. Geske, M. Herradón Cueto, L. Maxim, B. Wang: *Mixed Hodge structures on Alexander modules*,
preprint arhiva arXiv:2002.01589.

54. L. Maxim, J. Rodriguez, B. Wang: *A Morse theoretic approach to non-isolated singularities and applications to optimization*,
preprint arhiva arXiv:2002.00406.

55. A.D. Aydın, A. Gheondea: *Reproducing Kernel Hilbert Spaces Approximation Bounds*,
arXiv:2003.12801.

56. L. Ornea, A. Otiman, M. Stanciu: *Compatibility between non-Kähler structures on complex (nil)manifolds*,
arXiv:2003.10708.

57. Constantin-Nicolae Beli: *Explicit formulas for the cohomology of the elementary abelian p-groups* ,
preprint arXiv, https://arxiv.org/abs/2005.11868

58. Constantin-Nicolae Beli: *Universal integral quadratic forms over dyadic local fields*,
preprint arXiv, https://arxiv.org/abs/2008.10113

59. Constantin-Nicolae Beli: *Four conjectures by Zhi-Hong Sun*
preprint arXiv, https://arxiv.org/abs/2008.10718

60. N. Barton, M. Müller, M. Prunescu *On representations of intended structures in foundational theories.*
https://philarchive.org/rec/BARORO, 2020.

61. M. Buliga: *Artificial chemistry experiments with chemlambda, lambda calculus, interaction combinators*,
arXiv:2003.14332

62. M. Buliga: *Artificial life properties of directed interaction combinators vs. chemlambda*,
arXiv:2005.06060

63. M. Buliga: *Graph rewrites, from graphic lambda calculus, to chemlambda, to directed interaction combinators*,
arXiv:2007.10288

64. F. Nichita: *On Jordan Algebras and Some Unification Results.*
Preprint arxiv 2002.05345.

65. C. Mocanu; F. Nichita; O. Pasarescu: *Applications of Non-Standard Analysis in Topoi to Mathematical Neuroscience and Artificial Intelligence: I. Mathematical Neuroscience.*
Preprints 2020, 2020010102 (doi: 10.20944/preprints202001.0102.v1).

66. A. Otiman: *Special Hermitian metrics on Oeljeklaus-Toma manifolds*,
arXiv: 2009.02599

67. N. Istrati, A. Otiman, M. Pontecorvo, M.Ruggiero: *Toric Kato manifolds*,
arXiv: 2010.14854

68. D. Matei, E. Artal, J.I. Cogolludo, S. Lopez de Medrano: *Module structure of the homology of right-angled Artin kernels*,
arXiv:2020.00279.

69. Cr. Ana-Maria Anghel, N. Geer, B. Patureau, *Renormalized Witten-Reshetikhin-Turaev invariants and m-traces associated to the special linear Lie superalgebra*,
arxiv.org/abs/2010.13759 (38 pag)

70. Cr. Ana-Maria Anghel, $U_q(sl(2))-$*quantum invariants unified via intersections of embedded Lagrangians*
arxiv.org/abs/2010.05890. 18 pag.

71. Cr. Ana-Maria Anghel, *ADO invariants directly from partial traces of homological representations*,
arxiv.org/abs/2007.15616, 16 pag.

72. Cr. Ana-Maria Anghel, *Coloured Jones and Alexander polynomials as topological intersections of cycles in configuration spaces*,
arxiv.org/abs/2002.09390, 47 pag.

73. S. Moroianu: *Higher transgressions of the Pfaffian*,
arxiv https://arxiv.org/abs/2011.06538, 25 pagini

74. I.R. Badea, C. Mocanu, O. Păsărescu: *Applications of Non-Standard Analysis in Topoi to Mathematical Neuroscience and Artificial Intelligence: Infons, Energons, Receptons (I)*,
preprints202001.0102, Preprints.org, MDPI, August 2020

7.6 Cooperări ştiinţifice

1. D. Ionescu-Kruse - Erwin Schrödinger Institute (ESI) Viena, Austria, programul "Mathematical Aspects of Geophysical Flows", 20 - 26 Ianuarie 2020.

2. A. Agore - Vrije Universiteit Brussel, Belgia, 03.03.2020 – 14.03.2020

3. L. Maxim - Sydney Mathematical Research Institute at the University of Sydney (Australia), 15.01.2020 – 15.03.2020

4. L. Beznea - Universitatea Paris-Nord, Franţa, 2-15 februarie 2020, în cadrul reţelei GDRI ECO Math.

5. F. Ambro - AIM, San Jose, USA, Workshop on K-stability and related topics, 06-10.01.2020

6. M. Palmer-Anghel - Université Paris 13, Franţa, 11–13.03.2020

7. C. Joita - Univ. Lille, 01-13.03.2020.

8. Cr. Ana-Maria Anghel, Univ. Lille (Februarie 2020).

9. Cr. Ana-Maria Anghel, Univ. Paris Diderot (Ianuarie 2020)

10. Cr. Ana-Maria Anghel, Institut Fourier, Grenoble (Ianuarie 2020)