

Raport Anual

Institutul de Matematică "Simion Stoilow" al Academiei Române
Completare

2016

2 Lucrări publicate în 2016

2.1 În reviste din străinătate cotate ISI

1. G. Di Fratta, J. Robbins, V. Slastikov, A. Zărnescu: *Half-integer point defects in the Q-tensor theory of nematic liquid crystals*, **J. Nonlinear Sci.**, **26**, (2016), 121-140.
2. R. Ignat, L. Nguyen, V. Slastikov, A. Zărnescu: *Instability of point defects in a two-dimensional nematic liquid crystal model*, **Ann. Inst. H. Poincaré Anal. Non Linéaire**, **33**, (2016), 1131-1152.
3. R. Ignat, L. Nguyen, V. Slastikov, A. Zărnescu: *Stability of point defects of degree ± 1 in a two-dimensional nematic liquid crystal model*, **Calc. Var. Partial Differential Equations**, **55**, (2016), 55-119.
4. F. de Anna, A. Zărnescu: *Uniqueness of weak solutions of the full coupled Navier-Stokes and Q-tensor system in 2D*, **Comm. Math. Sci.**, **14**, (2016), 2127-2178.

6 Citări

6.2 Citări apărute în 2016

1. E. Brugallé, P. Georgieva, Pencils of quadrics and Gromov-Witten-Welschinger invariants of $\mathbb{C}P^3$, **Math. Ann.** 365 (2016), no. 1-2, 363–380.
Citeaza: V. Kharlamov, R. Răşdeaconu, *Counting real rational curves on K3 surfaces*, **Int. Math. Res. Notices**, no. 14, (2015), pag. 5436 – 5455.
2. M. Limoncu, The Euler characteristic and signature of four-dimensional closed manifolds and the normalized Ricci flow equation. **Geom. Dedicata** 180 (2016), 229?239. *Citeaza:* M. Ishida, R. Răşdeaconu , I. Şuvaina, *On normalized Ricci flow and smooth structures on four-manifolds with $b^+ = 1$* , **Arch. Math. (Basel)** **92**, (2009), no. 4, 355–365.
3. M. T. Lock, J. A. Viaclovsky, A smörgåsbord of scalar-flat Kähler ALE surfaces, **Journal für die reine und angewandte Mathematik**, to appear, DOI: 10.1515/crelle-2016-0007, June 2016.
Citeaza: R. Răşdeaconu, I. Şuvaina, *ALE Ricci-flat Kähler surfaces and weighted projective spaces*, **Ann. Glob. Anal. Geom.** no. 47, (2015), pag. 117 – 134
4. G. Canevari, M. Ramaswamy, A. Majumdar, “ *Radial symmetry on three-dimensional shells in the Landau-de Gennes theory*” *Physica D-Nonlinear Phenomena*, 314 (2016) pp. 18-34
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” *Archive for Rational Mechanics and Analysis* 196.1 (2010): 227-280.

5. C. Cavaterra, E. Rocca, H. Wu, X. Xu, “*Global strong solutions of the full Navier-Stokes and Q-tensor system for nematic liquid crystal flow in two dimensions*” SIAM Journal on Mathematical Analysis, 48 (2016) Issue: 2, pp. 1368-1399
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
6. D. Mucci, L. Nicolodi, “*On the Landau-de Gennes elastic energy of constrained biaxial nematics*” SIAM Journal on Mathematical Analysis, 48 (2016) Issue: 3, pp. 1954-1987
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
7. A. Majumdar, P. A. Milewski, A. Spicer, “*Front propagation at the nematic-isotropic transition temperature*” SIAM Journal on Applied Mathematics, 76 (2016) Issue: 4, pp: 1296-1320
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
8. S. Bedford, “*Function Spaces for liquid crystals*” Archive for Rational Mechanics and Analysis, 219 (2016) Issue: 2, pp. 937-984
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
9. Y. Hu, Yucheng, Y. Qu, Yang, P. Zhang, “*On the Disclination Lines of Nematic Liquid Crystals*” Communications in Computational Physics, 19 (2016) Issue: 2, pp: 354-379
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
10. X. Chen, Xinfu, X. Xu, “*Existence and uniqueness of global classical solutions of a gradient flow of the Landau-de Gennes energy*” Proceedings of the AMS, 144 (2016) Issue: 3, pp: 1251-1263
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
11. L. C. Evans, O. Kneuss, Olivier, T. Hung “*Partial regularity for minimizers of singular energy functionals, with applications to liquid crystal models*” Transactions of the AMS, 368 (2016) Issue: 5, pp: 3389-3413
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” Archive for Rational Mechanics and Analysis 196.1 (2010): 227-280.
12. D. R. G. Chillingworth, “*Perturbed hedgehogs: continuous deformation of point defects in biaxial nematic liquid crystals*” IMA Journal of Applied Mathematics, 81 (2016) Issue: 4, pp: 647-661

- Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” *Archive for Rational Mechanics and Analysis* 196.1 (2010): 227-280.
13. S. Alama, L. Bronsard, Lia, X. Lamy, “*Minimizers of the Landau-de Gennes Energy Around a Spherical Colloid Particle*” *Archive for Rational Mechanics and Analysis*, 222 (2016) Issue: 1 Pages: 427-450
Citeaza: A. Majumdar, A. Zărnescu. “*Landau-De Gennes theory of nematic liquid crystals: the Oseen-Frank limit and beyond.*” *Archive for Rational Mechanics and Analysis* 196.1 (2010): 227-280.
 14. J. W. Barrett, E. Sueli, *Existence of global weak solutions to compressible isentropic finitely extensible bead-spring chain models for dilute polymers*, *Mathematical Models and Methods in Applied Sciences*, 26 (2016) Issue: 3, pp: 469-568
Citeaza: P. Constantin, C. Fefferman, E. S. Titi, A. Zărnescu, *Regularity of coupled two-dimensional nonlinear Fokker-Planck and Navier-Stokes systems*, *Communications in Mathematical Physics*, 270 (2007), Issue: 3, pp.: 789-811
 15. H. Bae, Y. Choi, S. Ha, K. Moon-Jin, *Global Existence of Strong Solutions to the Cucker-Smale-Stokes System*, *Journal of Mathematical Fluid Mechanics*, 18 (2016) Issue: 2, pp: 381-396
Citeaza: P. Constantin, C. Fefferman, E. S. Titi, A. Zărnescu, *Regularity of coupled two-dimensional nonlinear Fokker-Planck and Navier-Stokes systems*, *Communications in Mathematical Physics*, 270 (2007), Issue: 3, pp.: 789-811
 16. H. Abels, G. Dolzmann, Georg, Y. Liu, “*Strong solutions for the Beris-Edwards model for nematic liquid crystals with homogeneous Dirichlet boundary conditions*” *Advances in Differential Equations*, 21 (2016) Issue: 1-2, pp: 109-152
Citeaza: J. M. Ball, John M., A. Zărnescu. “*Orientability and energy minimization in liquid crystal models.*” *Archive for Rational Mechanics and Analysis* 202.2 (2011): 493-535.
 17. A. Convent, J. Van Schaftingen, “*Intrinsic co-local weak derivatives and Sobolev spaces between manifolds*” *Annali della Scuola Normale Superiore di Pisa-classe di scienze* 16 (2016) Issue: 1, pp: 97-128
Citeaza: J. M. Ball, John M., A. Zărnescu. “*Orientability and energy minimization in liquid crystal models.*” *Archive for Rational Mechanics and Analysis* 202.2 (2011): 493-535.
 18. D. Mucci, L. Nicolodi, “*On the Landau-de Gennes elastic energy of constrained biaxial nematics*” *SIAM Journal on Mathematical Analysis*, 48 (2016) Issue: 3, pp. 1954-1987
Citeaza: J. M. Ball, John M., A. Zărnescu. “*Orientability and energy minimization in liquid crystal models.*” *Archive for Rational Mechanics and Analysis* 202.2 (2011): 493-535.
 19. S. Bedford, “*Function Spaces for liquid crystals*” *Archive for Rational Mechanics and Analysis*, 219 (2016) Issue: 2, pp. 937-984
Citeaza: J. M. Ball, John M., A. Zărnescu. “*Orientability and energy minimization in liquid crystal models.*” *Archive for Rational Mechanics and Analysis* 202.2 (2011): 493-535.

20. Y. Hu, Y. Qu, Yang, P. Zhang “ *On the Disclination Lines of Nematic Liquid Crystals*” Communications in Computational Physics, 19 (2016) Issue: 2, pp: 354-379
Citeaza: J. M. Ball, John M., A. Zărnescu. “*Orientability and energy minimization in liquid crystal models.*” Archive for Rational Mechanics and Analysis 202.2 (2011): 493-535.
21. Chen, Xinfu; Xu, Xiang “ *Existence and uniqueness of global classical solutions of a gradient flow of the Landau-de Gennes energy*” Proceedings of the AMS, 144 (2016) Issue: 3, pp: 1251-1263
Citeaza: Ball, John M., and Arghir Zarnescu. “*Orientability and energy minimization in liquid crystal models.*” Archive for Rational Mechanics and Analysis 202.2 (2011): 493-535.
22. S. Alama, L. Bronsard, X. Lamy “ *Minimizers of the Landau-de Gennes Energy Around a Spherical Colloid Particle*” Archive for Rational Mechanics and Analysis, 222 (2016) Issue: 1 Pages: 427-450
Citeaza: J. M. Ball, John M., A. Zărnescu. “*Orientability and energy minimization in liquid crystal models.*” Archive for Rational Mechanics and Analysis 202.2 (2011): 493-535.
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Citeaza: M. Paicu, A. Zărnescu. “*Energy dissipation and regularity for a coupled Navier-Stokes and Q-tensor system.*” Archive for Rational Mechanics and Analysis 203.1 (2012): 45-67.
24. M. Dai, E. Feireisl, E. Rocca, G. Schimperna, M. Schonbeck “*On asymptotic isotropy for a hydrodynamic model of liquid crystals*” Asymptotic Analysis, 97 (2016) Issue: 3-4, pp: 189-210
Citeaza: M. Paicu, A. Zărnescu. “*Energy dissipation and regularity for a coupled Navier-Stokes and Q-tensor system.*” Archive for Rational Mechanics and Analysis 203.1 (2012): 45-67.
25. C. Cavaterra, E. Rocca, Elisabetta, H. Wu, X. Xu “*Global strong solutions of the full Navier-Stokes and Q-tensor system for nematic liquid crystal flow in two dimensions*” SIAM Journal on Mathematical Analysis, 48 (2016) Issue: 2, pp. 1368-1399
Citeaza: M. Paicu, A. Zărnescu. “*Energy dissipation and regularity for a coupled Navier-Stokes and Q-tensor system.*” Archive for Rational Mechanics and Analysis 203.1 (2012): 45-67.
26. X. Chen, X. Xu “ *Existence and uniqueness of global classical solutions of a gradient flow of the Landau-de Gennes energy*” Proceedings of the AMS, 144 (2016) Issue: 3, pp: 1251-1263
Citeaza: M. Paicu, A. Zărnescu. “*Energy dissipation and regularity for a coupled Navier-Stokes and Q-tensor system.*” Archive for Rational Mechanics and Analysis 203.1 (2012): 45-67.
27. J. Zhao, Q. Wang “ *Semi-Discrete Energy-Stable Schemes for a Tensor-Based Hydrodynamic Model of Nematic Liquid Crystal Flows*” Journal of Scientific Computing, 68 (2016)

Issue: 3 pp: 1241-1266

Citeaza: M. Paicu, A. Zărnescu. “*Energy dissipation and regularity for a coupled Navier-Stokes and Q-tensor system.*” *Archive for Rational Mechanics and Analysis* 203.1 (2012): 45-67.

28. H. Abels, G. Dolzmann, Y. Liu “*Strong solutions for the Beris-Edwards model for nematic liquid crystals with homogeneous Dirichlet boundary conditions*” *Advances in Differential Equations*, 21 (2016) Issue: 1-2, pp: 109-152
Citeaza: M. Paicu, A. Zărnescu. ”Global existence and regularity for the full coupled Navier-Stokes and Q-tensor system.” *SIAM Journal on Mathematical Analysis* 43.5 (2011): 2009-2049.
29. M. Dai, E. Feireisl, E. Rocca, G. Schimperna, M. Schonbeck “*On asymptotic isotropy for a hydrodynamic model of liquid crystals*” *Asymptotic Analysis*, 97 (2016) Issue: 3-4, pp: 189-210
Citeaza: M. Paicu, A. Zărnescu. ”Global existence and regularity for the full coupled Navier-Stokes and Q-tensor system.” *SIAM Journal on Mathematical Analysis* 43.5 (2011): 2009-2049.
30. C. Cavaterra, E. Rocca, H. Wu, X. Xu “*Global strong solutions of the full Navier-Stokes and Q-tensor system for nematic liquid crystal flow in two dimensions*” *SIAM Journal on Mathematical Analysis*, 48 (2016) Issue: 2, pp. 1368-1399
Citeaza: M. Paicu, A. Zărnescu. ”Global existence and regularity for the full coupled Navier-Stokes and Q-tensor system.” *SIAM Journal on Mathematical Analysis* 43.5 (2011): 2009-2049.
31. S. Bedford “*Function Spaces for liquid crystals*” *Archive for Rational Mechanics and Analysis*, 219 (2016) Issue: 2, pp. 937-984
Citeaza: L. Nguyen, A. Zărnescu. “*Refined approximation for minimizers of a Landau-de Gennes energy functional.*” *Calculus of Variations and Partial Differential Equations* 47.1-2 (2013): 383-432.
32. S. Alama, L. Bronsard, X. Lamy “*Minimizers of the Landau-de Gennes Energy Around a Spherical Colloid Particle*” *Archive for Rational Mechanics and Analysis*, 222 (2016) Issue: 1 Pages: 427-450
Citeaza: L. Nguyen, A. Zărnescu. “*Refined approximation for minimizers of a Landau-de Gennes energy functional.*” *Calculus of Variations and Partial Differential Equations* 47.1-2 (2013): 383-432.
33. S. Alama, L. Bronsard, X. Lamy “*Minimizers of the Landau-de Gennes Energy Around a Spherical Colloid Particle*” *Archive for Rational Mechanics and Analysis*, 222 (2016) Issue: 1 Pages: 427-450
Citeaza: R. Ignat, L. Nguyen, V. Slastikov, A. Zărnescu “*Stability of the Melting Hedgehog in the Landau-de Gennes Theory of Nematic Liquid Crystals*” *Archive for Rational Mechanics and Analysis* 215 (2016) Issue: 2 pp: 633-673
34. D. R. G.Chillingworth “*Perturbed hedgehogs: continuous deformation of point defects in biaxial nematic liquid crystals*” *IMA Journal of Applied Mathematics*, 81 (2016) Issue: 4, pp: 647-661

- Citeaza*: R. Ignat, L. Nguyen, V. Slastikov, A. Zărnescu “ *Stability of the Melting Hedgehog in the Landau-de Gennes Theory of Nematic Liquid Crystals*” *Archive for Rational Mechanics and Analysis* 215 (2016) Issue: 2 pp: 633-673
35. G. Canevari, M. Ramaswamy, A. Majumdar “ *Radial symmetry on three-dimensional shells in the Landau-de Gennes theory*” *Physica D-Nonlinear Phenomena*, 314 (2016) pp. 18-34
Citeaza: R. Ignat, L. Nguyen, V. Slastikov, A. Zărnescu “ *Stability of the Melting Hedgehog in the Landau-de Gennes Theory of Nematic Liquid Crystals*” *Archive for Rational Mechanics and Analysis* 215 (2016) Issue: 2 pp: 633-673
36. C. Cavaterra, E. Rocca, H. Wu, Hao, X. Xu “ *Global strong solutions of the full Navier-Stokes and Q-tensor system for nematic liquid crystal flow in two dimensions*” *SIAM Journal on Mathematical Analysis*, 48 (2016) Issue: 2, pp. 1368-1399
Citeaza: E. Feireisl, E. Rocca, G. Schimperna, A. Zărnescu *Evolution of non-isothermal Landau-de Gennes nematic liquid crystal flows with singular potential*, *Communications in Mathematical Sciences*, Volume: 12 Issue: 2 Pages: 317-343
37. S. Alama, L. Bronsard, X. Lamy “ *Minimizers of the Landau-de Gennes Energy Around a Spherical Colloid Particle*” *Archive for Rational Mechanics and Analysis*, 222 (2016) Issue: 1 Pages: 427-450
Citeaza: R. Ignat, L. Nguyen, V. Slastikov, A. Zărnescu *Uniqueness results for an ODE related to a generalized Ginzburg-Landau model for liquid crystals* , *SIAM Journal on Mathematical Analysis*, 46 (2014) Issue: 5. pp: 3390-3425
38. R. M. Chen, S. Walsh *Continuous Dependence on the Density for Stratified Steady Water Waves* , *Archive for Rational Mechanics and Analysis*, 219 (2016) Issue: 2, pp: 741-792
Citeaza: E. Varvaruca, A. Zărnescu *Equivalence of weak formulations of the steady water waves equations*, *Philosophical Transactions of the Royal Society A-Mathematical, Physical and Engineering Sciences*, 370 (2012) Issue: 1964 pp: 1703-1719
39. A. Majumdar, P. A. Milewski, A. Spicer “ *Front propagation at the nematic-isotropic transition temperature*” *SIAM Journal on Applied Mathematics*, 76 (2016) Issue: 4, pp: 1296-1320
Citeaza: G. Di Fratta, J. M. Robbins, V. Slastikov, V., A. Zărnescu *Half-integer point defects in in the Q-Tensor Theory of Nematic Liquid Crystals*, *Journal of Nonlinear Sciences*, 26 (2016) Issue: 1, pp: 121-140
40. S. Alama, L. Bronsard, X. Lamy “ *Minimizers of the Landau-de Gennes Energy Around a Spherical Colloid Particle*” *Archive for Rational Mechanics and Analysis*, 222 (2016) Issue: 1 Pages: 427-450
Citeaza: G. Di Fratta, J. M. Robbins, V. Slastikov, A. Zărnescu, *Half-integer point defects in in the Q-Tensor Theory of Nematic Liquid Crystals*, *Journal of Nonlinear Sciences*, 26 (2016) Issue: 1, pp: 121-140
41. J.-Y. Wu, J.-B. Chen, *Pinching estimates for solutions of the linearized Ricci flow system in higher dimensions*, **Differential Geom. Appl.** **46** (2016), 108-118.
Citează: V. Timofte, *On the positivity of symmetric polynomial functions. Part I: General results*, **J. Math. Anal. Appl.** **284(1)** (2003), 174–190.

42. J. Acevedo, M. Velasco, *Test sets for nonnegativity of polynomials invariant under a finite reflection group*, **J. Pure Appl. Algebra** **220** (2016), 2936-2947.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
43. C. Riener, *Symmetric semi-algebraic sets and non-negativity of symmetric polynomials*, **J. Pure Appl. Algebra** **220** (2016), 2809-2815.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
44. C. Goel, S. Kuhlmann, B. Reznick, *On the Choi-Lam analogue of Hilbert's 1888 theorem for symmetric forms*, **Linear Algebra Appl.** **496** (2016), 114-120.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
45. P. Görlach, C. Riener, T. Weisser, *Deciding positivity of multisymmetric polynomials*, **J. Symbolic Comput.** **74** (2016), 603-616.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
46. B. Xia, L. Yang, **Automated Inequality Proving and Discovering**, World Scientific (2016), 344 pag.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
47. N. Elezovič, L. Mihokovič, *Asymptotic behavior of power means*, **Math. Inequal. Appl.** **19(4)** (2016), 1399–1412.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
48. S. Basu, C. Riener, *Efficient algorithms for computing the Euler-Poincaré characteristic of symmetric semi-algebraic sets*, **arXiv:1608.06828** (2016), 29 pag.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
49. T. Friedl, C. Riener, R. Sanyal, *Reflection groups, reflection arrangements, and invariant real varieties*, **arXiv:1602.06732** (2016), 15 pag.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part I: General results, J. Math. Anal. Appl. **284(1)** (2003), 174–190.
50. B. Xia, L. Yang, **Automated Inequality Proving and Discovering**, World Scientific (2016), 344 pag.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part II: Lattice general results and positivity criteria for degrees 4 and 5, J. Math. Anal. Appl. **304(2)** (2005), 652–667.
51. P. Görlach, C. Riener, T. Weisser, *Deciding positivity of multisymmetric polynomials*, **J. Symbolic Comput.** **74** (2016), 603-616.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part II: Lattice general results and positivity criteria for degrees 4 and 5, J. Math. Anal. Appl. **304(2)** (2005), 652–667.

52. C. Riener, *Symmetric semi-algebraic sets and non-negativity of symmetric polynomials*, **J. Pure Appl. Algebra** **220** (2016), 2809–2815.
Citează: V. Timofte, On the positivity of symmetric polynomial functions. Part II: Lattice general results and positivity criteria for degrees 4 and 5, **J. Math. Anal. Appl.** **304**(2) (2005), 652–667.
53. M. Mahmoud, L. Almuashi, *On some inequalities of the Bateman’s G-function*, **J. Comput. Anal. Appl.** **22**(4), 672–683.
Citează: V. Timofte, Integral estimates for convergent positive series, **J. Math. Anal. Appl.** **303**(1) (2005), 90–102.
54. M. Mahmoud, R.P. Agarwal, *Bounds for Bateman’s G-function and its applications*, **Georgian Math. J.** **23**(4) (2016), 579–586.
Citează: V. Timofte, Integral estimates for convergent positive series, **J. Math. Anal. Appl.** **303**(1) (2005), 90–102.
55. M. Mahmoud, L. Almuashi, *On some inequalities of the Bateman’s G-function*, **J. Comput. Anal. Appl.** **22**(4), 672–683.
Citează: V. Timofte, On Leibniz series defined by convex functions, **J. Math. Anal. Appl.** **300**(1) (2004), 160–171.
56. M. Mahmoud, R.P. Agarwal, *Bounds for Bateman’s G-function and its applications*, **Georgian Math. J.** **23**(4) (2016), 579–586.
Citează: V. Timofte, On Leibniz series defined by convex functions, **J. Math. Anal. Appl.** **300**(1) (2004), 160–171.
57. V. Timofte, A. Timofte *Generalized Dini theorems for nets of functions on arbitrary sets*, **Positivity** **20** (2015), 171–185.
Citează: V. Timofte, Special uniform approximations of continuous vector-valued functions. Part I: Special approximations in $C_X(T)$, **J. Approx. Theory** **119** (2002), 291–299.
58. V. Timofte, A. Timofte *Generalized Dini theorems for nets of functions on arbitrary sets*, **Positivity** **20** (2015), 171–185.
Citează: V. Timofte, Stone-Weierstrass theorems revisited, **J. Approx. Theory** **136** (2005), 45–59.

7 Conferințe

7.2 Conferințe susținute

1. A. Zărnescu, *Point defects in liquid crystal models: between Oseen-Frank and Landau-de Gennesi*, NYU-Oxford Workshop on Mathematical Models of Defects and Patterns, Courant Institute, New-York, 7 ianuarie 2016.
2. A. Zărnescu, *Poking around the K_{13} problem*, North-East Ohio Applied Mathematics Workshop, Kent State University, Kent, Ohio, 12 ianuarie 2016

3. A. Zărnescu, *Liquid crystal inertia in the Qian-Sheng model*, Partial Order: Mathematics, Simulations and Applications Workshop, IPAM, University of California at Los Angeles, 25 ianuarie 2016
4. A. Zărnescu, *Mathematical problems of the Q-tensor theory of liquid crystals*, BCAM Scientific Seminar, Bilbao, 2 februarie 2016
5. A. Zărnescu, *Around liquid crystal inertia within the Q-tensor framework*, Perspectives in Applied PDEs: a day in Pavia, Pavia 9 februarie 2016
6. A. Zărnescu, *On the K_{13} problem in the Oseen-Frank theory of nematic liquid crystals*, ERC Workshop on Modeling Materials and Fluids using Variational Methods, Berlin, 24 februarie 2016
7. A. Zărnescu, *Liquid crystal point defects in 2d: beyond the one-constant approximation*, Liquid Crystal Group Seminar, Peking University, Beijing 20 iunie 2016
8. A. Zărnescu, *The missing mystery K_{13} term in the Oseen-Frank energy*, PDE Seminar, Peking University, Beijing, 23 iunie 2016
9. A. Zărnescu, *Global well-posedness and twist-wave solutions for the inertial Qian-Sheng model of liquid crystals*, PDE Seminar, Chinese Academy of Sciences, Beijing, 22 iunie 2016
10. A. Zărnescu, *Anisotropic features in liquid crystal models*, Colloque Franco-Roumain des Mathématiques Appliquées, Iasi, 27 august 2016
11. A. Zărnescu, *Anisotropic spatial variations in liquid crystal models*, Indam Workshop on Trends on Applications of Mathematics to Mechanics, Roma, 5 Septembrie 2016
12. A. Zărnescu, *High Ericksen number and the dynamical creation of defects in nematics*, PDE Seminar, University of Oxford, 31 noiembrie 2016

8 Alte activități

8.1 Conducere granturi

- R. Rășdeaconu: Grant de cercetare "Deformation techniques in real enumerative geometry and Kähler geometry" - "Simons Foundation", SUA (Award Number: 281266).
- A. Zărnescu: Director al grantului Tinere Echipe- RO-PN-II-RU-TE-2014-4-0657 cu titlul "Simetrie, fizicalitate si aspecte de regularitate in teoria tensorilor Q a cristalelor lichide" pentru perioada 2015-2017
- A. Zărnescu: Co-investigator "Liquid crystal defects in Landau-de Gennes Theory", grant Leverhulme, UK-2015-2017.

8.2 Conducere doctorate

- A. Zărnescu: Conducator de doctorat al studentului Stuart Day (2013-) la Universitatea Sussex, UK.

8.3 Membru în colective editoriale

- V. Timofte: Editor Asociat, *Australian Journal of Mathematical Analysis and Applications (AJMAA)*.

8.4 Lucrări acceptate la publicat

1. V. Kharlamov, R. Răşdeaconu: *Qualitative aspects of counting real rational curves on real K3 surfaces*, acceptat la *Geometry & Topology*.
2. G. Kitavtsev, J. M. Robbins, V. Slastikov, A. Zărnescu: *Liquid crystal defects in the Landau-de Gennes theory in two dimensions-beyond the one-constant approximation*, acceptata la **Math. Models Methods Appl. Sci.**
3. J. M. Ball, A. Zărnescu: *Partial regularity and smooth topology-preserving approximations of rough domains*, acceptata in **Calc. Var. PDE**

8.5 Preprinturi

1. H-J. Hein, R. Răşdeaconu, I. Şuvaina: *On the classification of the ALE Kähler manifolds*, arXiv:1610.05239 [math.DG].
2. S. Day, A. Zărnescu: *Sphere-valued harmonic maps with surface energy and the K_{13} problem*, arXiv:1607.01243
3. F. de Anna, A. Zărnescu: *Global well-posedness and twist-wave solutions for the inertial Qian-Sheng model of liquid crystals*, arXiv:1608.08872
4. E. Feireisl, E. Rocca, G. Schimperna, A. Zărnescu: *On a hyperbolic system arising in liquid crystals modeling*, arXiv:1610.07828