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List of Publications

Theses

1. *Analyse de quelques problèmes aux limites elliptiques non linéaires*, Habilitation à Diriger des Recherches, Université Pierre et Marie Curie (Paris VI), 25 February 2003.

2. *Analyse de quelques problèmes liés à l'équation de Ginzburg-Landau*, Ph.D. thesis, Université Pierre et Marie Curie (Paris VI), 29 June 1995.

3. *Applications de la théorie des opérateurs à l'analyse non linéaire*, Ph.D. thesis, University of Craiova, 17 December 1993.

Books

1) (with M. Ghergu) *Nonlinear PDEs: Mathematical Models in Biology, Chemistry and Population Genetics*, Springer Monographs in Mathematics, Springer-Verlag, Heidelberg, xviii+392 pp., 2011 (see `http://www.springer.com/mathematics/dynamical+systems/book/978-3-642-22663-2?changeHeader`)

2) (with M. Rădulescu and S. Rădulescu) *Selected Problems in Mathematical Analysis*, Problem Books in Mathematics, Springer-Verlag, Heidelberg, to appear (2012).

3) (with P. Pucci and H. Weinberger, Editors), *Selected Papers of James Serrin*, 2 volumes, 1200 pp., Contemporary Mathematicians, Birkhäuser, Basel, to appear (2012).

4) (with C. Niculescu) *A PDEs Approach to Functional Analysis*, Cornerstones Series, Birkhäuser, Boston, to appear (2012).

5) (with A. Kristály and C. Varga) *Variational Principles in Mathematical Physics, Geometry and Economics: Qualitative Analysis of Nonlinear Equations and Unilateral Problems*, Encyclopedia of Mathematics (No. 136), Cambridge University Press, Cambridge, 384 pp., 2010 (see `http://www.cambridge.org/catalogue/catalogue.asp?isbn=9780521117821`).

6) (with T.-L. Rădulescu and T. Andreescu) *Problems in Real Analysis: Advanced Calculus on the Real Axis*, Springer, New York, xx+452 pp., 2009 (see `http://www.springer.com/mathematics/analysis/book/978-0-387-77378-0`).

7) (with M. Ghergu) *Singular Elliptic Problems: Bifurcation and Asymptotic Analysis*, Oxford Lecture Series in Mathematics and its Applications (John M. Ball, Series Editor), vol. 37, Oxford University Press, New York, 320 pp., 2008; (see `http://www.us.oup.com/us/catalog/general/subject/Mathematics/AppliedMathematics`).

8) *Qualitative Analysis of Nonlinear Elliptic Partial Differential Equations*, Contemporary Mathematics and Its Applications, vol. 6, Hindawi Publ. Corp., 210 pp., 2008; (see `http://www.hindawi.com/books.html`).

9) (with C. Niculescu, Editors), *Mathematical Analysis and Applications: International Conference on Mathematical Analysis and Applications*, Craiova (Romania), 23-24 September 2005, AIP Conference Proceedings Volume 835, American Institute of Physics, 176 pp., 2006; (see
`http://proceedings.aip.org/proceedings/confproceed/835.jsp` and
`http://www.springer.com/east/home/generic/search/results?SGWID=5-40109-22-173663783-0`).

10) (with D. Motreanu) *Variational and Nonvariational Methods in Nonlinear Analysis and Boundary Value Problems*, Nonconvex Optimization and Its Applications, Vol. 67, Kluwer Academic Publishers, Dordrecht, 388 pp., 2003; (see `www.springer.com/prod/b/1-4020-1385-X`).

11) *Partial Differential Equations*, Craiova University Press, 1999.

12) *Treatment Methods of the Elliptic Problems*, Craiova University Press, 1998.

Editor of Special Issues

1) Guest Editor (with Giuseppe Da Prato, Scuola Normale Superiore di Pisa) of the Special Issue *Stochastic PDEs in Fluid Dynamics, Particle Physics and Statistical Mechanics*, *Journal of Mathematical Analysis and Applications* **384** (2011), Issue 1 (2009 ISI Impact Factor: 1.225).

2) Guest Editor (with Alexander Pankov, Robert P. Gilbert, and Stanislav Antontsev) of the Special Issue *Sobolev Spaces with Variable Exponent and Related Elliptic Problems: Theory and Applications*, *Complex Variables and Elliptic Equations* **56**, Issue 7–9, 2011.

3) Guest Editor (with Claudianor Alves) of the Special Issue *Degenerate and Singular Differential Operators with Applications to Boundary Value Problems*, *Boundary Value Problems* (2009 ISI Impact Factor: 1.068), Volume 2010 (2010).

4) Guest Editor of the Special Issue *Degenerate and Singular Partial Differential Equations and Phenomena*, *Journal of Mathematical Analysis and Applications* (2009 ISI Impact Factor: 1.225), Vol. 352, Issue 1, 572 pp., 2009.

5) Guest Editor (with Hervé Le Dret – University of Paris 6 and Roderick Wong, City University of Hong Kong) of the Special Issue of *Communications in Pure and Applied Analysis* (2009 ISI Impact Factor: 0.918) dedicated to the 70th anniversary of Professor Philippe G. Ciarlet, Vol. 8, Issue 1, 491 pp., 2009.

6) Guest Editor (with M. Iosifescu) of the Proceedings of the Seventh Franco-Romanian Colloquium on Applied Mathematics, Held in Craiova, August 30 – September 3, 2004, *Annals Univ. Craiova Ser. Mat. Inform.* **32** (2005).

7) Guest Editor (with M. Iosifescu and M. Sofonea) of the Proceedings of the Sixth Franco-Romanian Colloquium on Applied Mathematics, Held in Perpignan, September 2–6, 2002, *Annals Univ. Craiova Ser. Mat. Inform.* **30** (2003).

Translations

1) H. Brezis, *Analyse fonctionnelle: théorie, méthodes et applications*, Masson, Paris, 1992. Translation from French. Romanian title: *Analiză funcţională: teorie, metode şi aplicaţii*, Editura Academiei Române, Bucureşti, 2002, 275 pp.

Course Notes

1) H. Brezis, *Équations de Ginzburg-Landau et singularités*, Notes de cours à l'Université Pierre et Marie Curie (Paris 6) rédigées par Vicentiu Radulescu, 2001.

Articles

1) "Variational aspects of generalized eigenvalue and eigenvector problems", *Proceedings of the National Colloquium on Probability Theory and Operational Research (Craiova, 1982)*, 164-167, Univ. Bucharest, Bucharest, 1982.

2) "Subspaces with the $1\frac{1}{2}$-ball property in Banach spaces", *Ann. Univ. Craiova* **XV** (1987), 19-25.

3) "A generalization of a classical result concerning the duality of regular spaces", *Revue Roum. Math. Pures Appl.* **33** (1988), 785-788.

4) "A study of some special functions with Lie theory", *Studii Cerc. Mat.* **43** (1991), 67-71.

5) "Sur la théorie de Lusternik-Schnirelman en dimension finie", *Matarom*, Laboratoire d'Analyse Numérique, Université de Paris 6, No. 2 (juin 1992), 9-17.

6) "Nonlinear Sturm-Liouville type problems with a finite number of solutions", *Matarom*, Laboratoire d'Analyse Numérique, Université de Paris 6, No. 3 (juillet 1993), 54-67 (with P. Mironescu).

7) "Mountain pass type theorems for non-differentiable functions and applications", *Proc. Japan Acad.* **69A** (1993), 193-198.

8) "A bifurcation problem associated to a convex, asymptotically linear function", *C.R. Acad. Sci. Paris, Ser. I* **316** (1993), 667-672 (with P. Mironescu).

9) "On the Volterra theorem", *Ann. Univ. Craiova* **XX** (1993), 11-12.

10) "Problems at resonance via critical point theorems for non-smooth functionals", *Tübingen Berichte zür Funktionanalysis*, Heft 3, Jahrgang 93/94, 169-183 (with C. Niculescu).

11) "Periodic solutions of the equation $-\Delta v = v(1 - |v|^2)$ in $\mathbb{R}$ and $\mathbb{R}^2$", *Houston Math. Journal* **20** (1994), 653-670 (with P. Mironescu).

12) "Vector norms and duality properties in Riesz spaces", *Annals New York Acad.* **728** (1994), 330-338.

13) "On the Ginzburg-Landau energy with weight", *C.R. Acad. Sci. Paris, Ser. I* **319** (1994), 843-848 (with C. Lefter).

14) "Mountain pass type theorems for non-differentiable convex functions", *Revue Roum. Math. Pures Appl.* **39** (1994), 53-62.

15) "On a duality theorem", *Studii Cerc. Mat.* **46** (1994), 393-396 (with P. Mironescu).

16) "On the Ginzburg-Landau energy with vanishing weight", *Ann. Univ. Craiova* **XXI** (1994), 3-11 (with C. Lefter).

17) "A Lusternik-Schnirelman type theorem for locally Lipschitz functionals with applications to multivalued periodic problems", *Proc. Japan Acad.* **71A** (1995), 164-167.

18) "A multiplicity theorem for locally Lipschitz periodic functionals", *J. Math. Anal. Appl.* **195** (1995), 621-637 (with P. Mironescu).

19) "The renormalized energy associated to a harmonic map", *PanAmerican Math. Journal* **3** (1995), No. 2, 1-7 (with C. Lefter).

20) "Locally Lipschitz functionals with the strong Palais-Smale property", *Revue Roum. Math. Pures Appl.* **40** (1995), 355-372.

21) "Convergence properties for general solutions of the Ginzburg-Landau energy with weight", *Revue Roum. Math. Pures Appl.* **40** (1995), 633-639 (with C. Lefter).

22) "Minimization problems and renormalized energies related to the Ginzburg-Landau equation", *Ann. Univ. Craiova* **XXII** (1995), 1-13 (with C. Lefter).

23) "Nontrivial solutions for a multivalued problem with strong resonance", *Glasgow Math. Journal* **38** (1996), 53-61.

24) "On the Ginzburg-Landau energy with weight", *Ann. Inst. H. Poincaré, Analyse Non-linéaire* **13** (1996), 171-184.

25) "The study of a bifurcation problem associated to an asymptotically linear function", *Nonlinear Analysis, T.M.A.* **26** (1996), 857-875 (with P. Mironescu).

26) "A Saddle Point type theorem and applications to the study of some problems with strong resonance at infinity", *Ann. Acad. Sci. Fennicae* **21** (1996), 117-131 (with C. Niculescu).

27) "Minimization problems and corresponding renormalized energies", *Diff. Integral Equations* **9** (1996), 903-918 (with C. Lefter).

28) "Asymptotics for the minimizers of the Ginzburg-Landau energy with vanishing weight", *Advances Math. Sci. Appl.* **7** (1997), 259-271.

29) "Sur l'équation multigroupe stationnaire de la diffusion des neutrons", *C.R. Acad. Sci. Paris, Ser. I* **323** (1996), 765-768.

30) "Problèmes elliptiques avec non-linéarité discontinue et second membre L^1", *C.R. Acad. Sci. Paris, Ser. I* **324** (1997), 169-172 (with M. Bocea).

31) "Existence theorems for some classes of boundary value problems involving the p-Laplacian", *PanAmerican Math. Journal* **7** (1997), No. 2, 53-66 (with D. Motreanu).

32) "Perturbations of hemivariational inequalities with constraints and applications", *J. Global Optimiz.* **12** (1998), 285-297 (with P.D. Panagiotopoulos).

33) "Multivalued problems with strong resonance at infinity and L^1 data", *Revue Roumaine Math. Pures Appl.* **43** (1998), 533-540.

34) "An eigenvalue Dirichlet problem with weight and L^1 data", *Math. Nachr.* **198** (1999), 5-17 (with M. Bocea).

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36) "Existence and uniqueness of positive solutions to a semilinear elliptic problem in $\mathbb{R}^N$", *J. Math. Anal. Appl.* **229** (1999), 417-425 (with F. Cîrstea).

37) "A perturbation result for a double eigenvalue hemivariational inequality and applications", *J. Global Optimiz.* **14** (1999), 137-156 (with M. Bocea and P.D. Panagiotopoulos).

38) "Perturbations of nonsmooth symmetric nonlinear eigenvalue problems", *C.R. Acad. Sci. Paris* **329** (1999), 281-286 (with M. Degiovanni).

39) "Perturbations of hemivariational inequalities with constraints", *Revue Roum. Math. Pures Appl.* **44** (1999), 455-461.

40) "Double eigenvalue hemivariational inequalities with non-locally Lipschitz energy functional", *Commun. Appl. Nonlin. Anal.* **6** (1999), No. 4, 17-29 (with M. Bocea and P.D. Panagiotopoulos).

41) "Approximation of the ground state with solutions on bounded domains with corners", *Revue Roum. Math. Pures Appl.* **44** (1999), 845-855.

42) "KKM techniques for hemivariational inequalities and applications", *Ann. Univ. Craiova* **XXVI** (1999), 29-42 (with C. Vladimirescu).

43) "A nonsmooth critical point theory approach to some nonlinear elliptic equations in unbounded domains", *Differential and Integral Equations* **13** (2000), 47-60 (with F. Gazzola).

44) "Existence and nonexistence results for quasilinear problems with nonlinear boundary condition", *J. Math. Anal. Appl.* **244** (2000), 169-183 (with F. Cîrstea).

45) "Multiple solutions of hemivariational inequalities with area-type term", *Calculus of Variations and PDE* **10** (2000), 355-387 (with M. Degiovanni and M. Marzocchi).

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ory of Professor P.D. Panagiotopoulos, Eds.: D.Y. Gao, R.W. Ogden, G.E. Stavroulakis, Kluwer Academic Publishers, 2000, pp. 333-348.

47) "Minimization of the renormalized energy in the unit ball of $\mathbb{R}^2$", *Nieuw Archief voor Wiskunde* **5/1**, No. 3 (2000), 150-152 (with L. Ignat and C. Lefter).

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50) "Multiplicity of solutions for a class of non-symmetric eigenvalue hemivariational inequalities", *J. Global Optimiz.* **17** (1/4) (2000), 43-54 (with F. Cîrstea).

51) "On the uniqueness of solutions to a class of singular anisotropic elliptic boundary value problems", *RGMIA Research Report Collection*, vol. 3 (2000), 405-414 (with F. Cîrstea).

52) "On a double bifurcation quasilinear problem arising in the study of anisotropic continuous media", *Proc. Edinburgh Math. Soc.* **44** (2001), 527-548 (with F. Cîrstea).

53) "Perturbations of eigenvalue problems with constraints for hemivariational inequalities", *From Convexity to Nonconvexity, volume dedicated to the memory of Prof. G. Fichera*, Nonconvex Optim. Appl., 55, Kluwer Acad. Publ., Dordrecht, 2001 (R. Gilbert, P. Pardalos, Eds.), 243-253.

54) "Existence implies uniqueness for a class of singular anisotropic elliptic boundary value problems", *Math. Methods Appl. Sciences* **24** (2001), 771-779 (with F. Cîrstea).

55) "Weak solutions of quasilinear problems with nonlinear boundary conditions", *Nonlinear Analysis, T.M.A.* **43** (2001), 623-636 (with F. Cîrstea and D. Motreanu).

56) "Nonlinear eigenvalue problems for quasilinear operators on unbounded domains", *Nonlinear Diff. Equations Appl. (NoDEA)* **8** (2001), 481-497 (with E. Montefusco).

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58) "Blow-up solutions for semilinear elliptic problems", *Nonlinear Analysis, T.M.A.* **48** (2002), 541-554 (with F. Cîrstea).

59) "Perturbations of symmetric hemivariational inequalities", in *Nonsmooth/Nonconvex Mechanics with Applications in Engineering*, Editions Ziti, Thessaloniki, 2002 (C. Baniotopoulos, Ed.), 61-72.

60) "Existence and uniqueness of blow-up solutions for a class of logistic equations", *Commun. Contemp. Math.* **4** (2002), 559-586 (with F. Cîrstea).

61) "Hardy-Sobolev inequalities with remainder terms", *Topol. Meth. Nonlin. Anal.* **20** (2002), 145-149 (with M. Willem and D. Smets).

62) "Uniqueness of the blow-up boundary solution of logistic equations with absorption", *C. R. Acad. Sci. Paris, Ser. I* **335** (2002), 447-452 (with F. Cîrstea).

63) "Entire solutions blowing-up at infinity for semilinear elliptic systems", *J. Math. Pures Appliquées* **81** (2002), 827-846 (with F. Cîrstea).

64) "Explosive solutions of elliptic equations with absorption and nonlinear gradient term", *Proc. Indian Acad. (Math. Sciences)* **112** (2002), 1-11 (with M. Ghergu and C. Niculescu).

65) "Solutions with boundary blow-up for a class of nonlinear elliptic problems", *Houston J. Math.* **29** (2003), 821-829 (with F. Cîrstea).

66) "Elliptic systems involving finite Radon measures", *Differential and Integral Equations* **16** (2003), 221-229 (with M. Willem).

67) "Multiplicity of solutions for a class of non-symmetric eigenvalue hemivariational inequalities", *Math. Methods Appl. Sciences* **26** (2002), 801-814 (with C. Ciulcu and D. Motreanu).

68) "Asymptotics for the blow-up boundary solution of the logistic equation with absorption", *C. R. Acad. Sci. Paris, Ser. I* **336** (2003), 231-236 (with F. Cîrstea).

69) "Ground state solutions of nonlinear singular Schrödinger equations with lack of compactness", *Math. Methods Appl. Sciences* **26** (2003), 897-906 (with M. Mihăilescu).

70) "Multi-valued boundary value problems involving Leray-Lions operators and discontinuous nonlinearities", *Rend. Circ. Mat. Palermo* **52** (2003), 57-69 (with S. Dăbuleanu).

71) "Asymptotics of minimizers and pinning of vortices for a variational problem with discontinuous weight related to superconductivity", in *Proceedings of the National Conference on Mathematical Analysis and Applications*, Timişoara, December 12-13 2000, Timişoara University Press, 2003 (M. Megan, N. Suciu, Eds.), pp. 337-356.

72) "Inequality problems with nonlocally Lipschitz energy functional: existence results and applications to nonsmooth mechanics", *Applicable Anal.* **82** (2003), 561-574 (with M. Bocea and P.D. Panagiotopoulos).

73) "Sublinear singular elliptic problems with two parameters", *J Differential Equations* **195** (2003), 520-536 (with M. Ghergu).

74) "Critical singular problems on infinite cones", *Nonlinear Analysis, T.M.A.* **54** (2003), 1153-1164 (with D. Smets).

75) "Existence and non-existence of entire solutions to the logistic differential equation", *Abstract and Applied Analysis* **17** (2003), 995-1003 (with M. Ghergu).

76) "Nonlinear eigenvalue problems arising in earthquake initiation", *Adv. Differential Equations* **8** (2003), 769-786 (with I. Ionescu).

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78) "Explosive solutions of semilinear elliptic systems with gradient term", *RACSAM Rev. Real Acad. Cienc. Exactas Fís. Nat. Ser. A Mat.* **97** (2003), 437-445 (with M. Ghergu).

79) Éditorial [Actes du 6-ème Colloque Franco-Roumain de Mathématiques Appliquées], Proceedings of the Sixth Franco-Romanian Colloquium on Applied Mathematics, Held in Perpignan, September 2-6, 2002, *Ann. Univ. Craiova* **30** (2003), No. 1, p. 1 (with M. Iosifescu and M. Sofonea).

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81) "Nonradial blow-up solutions of sublinear elliptic equations with gradient term", *Commun. Pure Appl. Anal.* **3** (2004), 465-474 (with M. Ghergu).

82) "Bifurcation for a class of singular elliptic problems with quadratic convection term", *C. R. Acad. Sci. Paris, Ser. I* **338** (2004), 831-836 (with M. Ghergu).

83) "Extremal singular solutions for degenerate logistic-type equations in anisotropic media", *C. R. Acad. Sci. Paris, Ser. I* **339** (2004), 119-124 (with F. Cîrstea).

84) "Septième Colloque franco-roumain de mathématiques appliquées", *Gazette des Mathématiciens*, No. 103 (2005), 57-58 (with M. Iosifescu) [see also *Matapli*, No. 76 (mars 2005), 47-48].

85) "Finitely many solutions for a class of boundary value problems with superlinear convex nonlinearity", *Archiv der Mathematik (Basel)* **84** (2005), 538-550.

86) "Combined effects of asymptotically linear and singular nonlinearities in bifurcation problems of Lane-Emden-Fowler type", *J. Math. Pures Appl. (Journal de Liouville)* **84** (2005), 493-508 (with F. Cîrstea and M. Ghergu).

87) "Multiparameter bifurcation and asymptotics for the singular Lane-Emden-Fowler equation with a convection term", *Proceedings of the Royal Society of Edinburgh: Section A (Mathematics)* **135** (2005), 61-84 (with M. Ghergu).

88) "Eigenvalue problems for degenerate nonlinear elliptic equations in anisotropic media", *Boundary Value Problems* **1** (2005), 107-128 (with D. Motreanu).

89) "On a class of sublinear singular elliptic problems with convection term", *J. Math. Anal. Appl.* **311** (2005), 635-646 (with M. Ghergu).

90) Préambule [Actes du 7-ème Colloque Franco-Roumain de Mathématiques Appliquées], Proceedings of the Seventh Franco-Romanian Colloquium on Applied Mathematics, Held in Craiova, August 30-September 3, 2004, *Ann. Univ. Craiova* **32** (2005), p. 1 (with M. Iosifescu).

91) "Bifurcation and asymptotics for elliptic problems with singular nonlinearity", in *Studies in Nonlinear Partial Differential Equations: In Honor of Haim Brezis, Fifth European Conference on Elliptic and Parabolic Problems: A special tribute to the work of Haim Brezis*, Gaeta, Italy, May 30 - June 3, 2004 (C. Bandle, H. Berestycki, B. Brighi, A. Brillard, M. Chipot, J.-M. Coron, C. Sbordone, I. Shafrir, V. Valente, G. Vergara Caffarelli, Eds), Birkhäuser, 2005, pp. 349-362.

92) "Nonlinear problems with boundary blow-up: a Karamata regular variation theory approach", *Asymptotic Analysis* **46** (2006), 275-298 (with F. Cîrstea).

93) "Singular elliptic problems with lack of compactness", *Ann. Matem. Pura Appl.* **185** (2006), 63-79 (with M. Ghergu).

94) "A multiplicity result for a nonlinear degenerate problem arising in the theory of electrorheological fluids", *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences* **462** (2006), 2625-2641 (with M. Mihăilescu).

95) "Singular elliptic problems with convection term in anisotropic media", in *Mathematical Analysis and Applications: International Conference on Mathematical Analysis and Applications*, Craiova (Romania), 23-24 September 2005, AIP Conference Proceedings Volume 835 (C. Niculescu and V. Rădulescu, Editors), American Institute of Physics, 2006, pp. 74-89 (with M. Ghergu).

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98) "On the influence of a subquadratic convection term in singular elliptic problems", in *Applied Analysis and Differential Equations* (O. Carja, I. Vrabie, Eds.), World Scientific, 2007, pp. 127-138 (with M. Ghergu).

99) "An infinite dimensional version of the Schur convexity property and applications", *Analysis and Applications* **5** (2007), 123-136 (with C. Vallée).

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101) "On a class of singular Gierer-Meinhardt systems arising in morphogenesis", *C. R. Acad. Sci. Paris, Ser. I* **344** (2007), 163-168 (with M. Ghergu).

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104) "Ground state solutions for the singular Lane-Emden-Fowler equation with sublinear convection term", *J. Math. Anal. Appl.* **333** (2007), 265-273 (with M. Ghergu).

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111) "Existence and non–existence results for quasilinear elliptic exterior problems with nonlinear boundary conditions", *Communications in Partial Differential Equations* **33** (2008), 706-717 (with R. Filippucci and P. Pucci).

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