

## PUBLICATION LIST

- [1] *A Spectral Mapping Theorem for the Exponential Function in Linear Transport Theory*, *Transport Theory and Stat. Physics*, **14**(5) (1985), 655–667.
- [2] *Two Counterexamples to the Spectral Mapping Theorem for Semigroups of Positive Operators*, *Integral Equations and Operator Theory*, **9** (1986), 460–467.
- [3] *A Formula for the Resolvent of  $(-\Delta)^m + M_q^{2m}$  with Applications to Trace Class*, *Trans. Amer. Math. Soc.*, **303**(1) (1987), 325–344.
- [4] *On  $\ell_p$ -Summability of the Characteristic Values of Integral Operators on  $L_2(\mathbb{R}^N)$* , *Integral Equations and Operator Theory*, **10** (1987), 819–840.
- [5] *Fractional Powers of  $(-\Delta)^m + M_q^{2m}$  with Applications to Trace Class*, *Indiana Univ. Math. J.*, **37**(1) (1988), 201–222.
- [6] *The local stability of positive solutions to the Hammerstein equation with a nonmonotonic Nemytskii operator*, *Monatshefte für Mathematik*, **106** (1988), 313–335.
- [7] (with G. F. Webb and D. P. Hardin) *A Comparison of Dispersal Strategies for Survival of Spatially Heterogeneous Populations*, *SIAM J. Appl. Math.*, **48** (1988), 1396–1423.
- [8] (with G. F. Webb and D. P. Hardin) *Asymptotic Properties of a Continuous-Space Discrete-Time Population Model in a Random Environment*, *J. Math. Biology*, **26** (1988), 361–374.
- [9] *The nonlinear Boltzmann equation: representation theory, super- and subsolutions*, “*Proceedings of the Wing Conference*, Jan. 22-24, 1988, Santa Fe, NM. *Lecture Notes in Pure and Applied Math.*, Vol. **115**, pp. 147–163, Marcel Dekker, New York and Basel, 1989.
- [10] (with G. F. Webb and D. P. Hardin) *Dispersion Population Models Discrete in Time and Continuous in Space*, *J. Math. Biology*, **28** (1990), 1–20.
- [11] *Convergence to equilibrium on invariant  $d$ -hypersurfaces for strongly increasing discrete-time semigroups*, *J. Math. Anal. Appl.*, **148** (1990), 223–244.
- [12] *Asymptotic behavior of discrete-time semigroups of sublinear, strongly increasing mappings with applications in biology*, *Nonlinear Analysis*, **14** (1990), 35–42.
- [13] *A fast diffusion equation which generates a monotone local semiflow I: Local existence and uniqueness*, *Differential and Integral Equations*, **4**(1) (1991), 151–174.
- [14] *A fast diffusion equation which generates a monotone local semiflow II: Global existence and asymptotic behavior*, *Differential and Integral Equations*, **4**(1) (1991), 175–187.
- [15] *Domains of attraction of generic  $\omega$ -limit sets for strongly monotone semiflows*, *Z. Anal. Anwendungen*, **10**(3) (1991), 275–317.
- [16] *Domains of attraction of generic  $\omega$ -limit sets for strongly monotone discrete-time semigroups*, *J. reine angew. Math.*, **423** (1992), 101–173.
- [17] *Large-time behavior of a time-periodic cooperative system of reaction-diffusion equations depending on parameters*, *SIAM J. Math. Anal.*, **23**(2) (1992), 387–411.
- [18] *Asymptotic behavior of strongly monotone time-periodic dynamical processes with symmetry*, *J. Differential Equations*, **100** (1992), 355–378.
- [19] *Linearly stable subharmonic orbits in strongly monotone time-periodic dynamical systems*, *Proc. Amer. Math. Soc.*, **115** (1992), 691–698.

- [20] *Invariant 2-tori in the time-dependent Ginzburg-Landau equation*, Nonlinearity, **5**(2) (1992), 289–321.
- [21] *A construction of stable subharmonic orbits in monotone time-periodic dynamical systems*, Monatshefte für Mathematik, **115** (1993), 215–244.
- [22] *A short elementary proof of the Kreĭn-Rutman theorem*, Houston J. Math., **20**(1) (1994), 93–98.
- [23] (with J. Fleckinger) *Unicité de la solution d'un système non linéaire strictement coopératif*, Comptes Rendus de l'Académie des Sciences de Paris, **319** (1994), Série I, 447–450.
- [24] (with J. Fleckinger) *Uniqueness of positive solutions for nonlinear cooperative systems with the  $p$ -Laplacian*, Indiana Univ. Math. J., **43**(4) (1994), 1227–1253.
- [25] (with J. Fleckinger, J.-P. Gossez and F. de Thélin) *Existence, nonexistence et principe de l'antimaximum pour le  $p$ -laplacien*, Comptes Rendus de l'Académie des Sciences de Paris, **321** (1995), Série I, 731–734.
- [26] *Dynamics on the attractor for the complex Ginzburg-Landau equation*, Rostocker Mathematisches Kolloquium, **49** (1995), 163–184.
- [27] *Convergence in the part metric for discrete dynamical systems in ordered topological cones*, Nonlinear Analysis, **26**(11) (1996), 1753–1777.
- [28] (with P. Bollerman, A. Doelman, A. van Harten and E. S. Titi) *Analyticity of essentially bounded solutions to semilinear parabolic systems and validity of the Ginzburg-Landau equation*, SIAM J. Math. Anal., **27**(2) (1996), 424–448.
- [29] *An abstract form of maximum and anti-maximum principles of Hopf's type*, J. Math. Anal. Appl., **201** (1996), 339–364.
- [30] *On the dynamical process generated by a superconductivity model*, In “Proceedings of ICIAM'95”, Z. angew. Math. Mech., **76**(S2) (1996), 349–352.
- [31] (with B. Alziary) *A pointwise lower bound for positive solutions of a Schrödinger equation in  $\mathbb{R}^N$* , J. Differential Equations, **133**(2) (1997), 280–295.
- [32] *Discrete monotone dynamics and time-periodic competition between two species*, Differential and Integral Equations, **10**(3) (1997), 547–576.
- [33] (with H. G. Kaper) *An Equivalence Relation for the Ginzburg-Landau Equations of Superconductivity*, Z. angew. Math. Phys., **48** (1997), 665–675.
- [34] (with M. Cuesta) *A strong comparison principle for the Dirichlet  $p$ -Laplacian*, in “Reaction-Diffusion Systems”, G. Caristi and E. Mitidieri, eds., pp. 79–87. In *Lecture Notes in Pure and Applied Mathematics*, Vol. **194**. Marcel Dekker, Inc., New York–Basel, 1998.
- [35] (with J. Fleckinger, J. Hernández and F. de Thélin) *Uniqueness and Positivity for Solutions of Equations with the  $p$ -Laplacian*, in “Reaction-Diffusion Systems”, G. Caristi and E. Mitidieri, eds., pp. 141–155. In *Lecture Notes in Pure and Applied Mathematics*, Vol. **194**. Marcel Dekker, Inc., New York–Basel, 1998.
- [36] *Bifurcations to Invariant 2-Tori for the Complex Ginzburg-Landau equation*, Applied Mathematics and Computation, **89**(1–3) (1998), 241–258.
- [37] (with J. Fleckinger and H. G. Kaper) *Dynamics of the Ginzburg-Landau equations of superconductivity*, Nonlinear Analysis, **32**(5) (1998), 647–665.

- [38] (with H. G. Kaper) *Ginzburg-Landau dynamics with a time-dependent magnetic field*, Nonlinearity, **11**(2) (1998), 291–305.
- [39] (with J. Fleckinger) *Maximum and Anti-Maximum Principles for Some Elliptic Problems*, In “Advances in Differential Equations and Mathematical Physics”, Proceedings of the 1997 International Conference on Differential Equations and Mathematical Physics, 1997, Atlanta, Georgia, U.S.A. Contemporary Mathematics, Vol. **217**, pp. 19–32, American Mathematical Society, Providence, R.I., U.S.A., 1998.
- [40] (with J. Fleckinger, J.-P. Gossez and F. de Thélin) *Nonexistence of solutions and an anti-maximum principle for cooperative systems with the  $p$ -Laplacian*, Math. Nachrichten, **194** (1998), 49–78.
- [41] (with P. Drábek) *A Counterexample to the Fredholm Alternative for the  $p$ -Laplacian*, Proc. Amer. Math. Soc., **127**(4) (1999), 1079–1087.
- [42] *Degenerate Elliptic Equations in Ordered Banach Spaces and Applications*, In “Nonlinear Differential Equations”, Lectures at the 1998 Summer School, 1998, Prague, Czech Republic; P. Drábek, P. Krejčí and P. Takáč, Eds. Chapman & Hall/CRC Research Notes in Mathematics, Vol. **404**, pp. 111–196, CRC Press LLC, Boca Raton, FL, U.S.A., 1999. (Formerly Pitman Mathematics Series.)
- [43] (with B. Alziary and J. Fleckinger) *An Extension of Maximum and Anti-Maximum Principles to a Schrödinger Equation in  $\mathbb{R}^2$* , J. Differential Equations, **156** (1999), 122–152.
- [44] (with S.-Z. Huang) *Global smooth solutions of the complex Ginzburg-Landau equation and their dynamical properties*, Discrete and Continuous Dynamical Systems, **5**(4) (1999), 825–848.
- [45] (with H. G. Kaper) *Bifurcating vortex solutions of the complex Ginzburg-Landau equation*, Discrete and Continuous Dynamical Systems, **5**(4) (1999), 871–880.
- [46] (with B. Alziary and J. Fleckinger) *Maximum and anti-maximum principles for some systems involving Schrödinger operators*, In “The Maz’ya Anniversary Collection”, Vol. 2, Proceedings of the Rostock Conference on Functional Analysis, Partial Differential Equations and Applications, Aug. 31 – Sept. 4, 1998, Rostock, Germany; J. Roßmann, P. Takáč and G. Wildenhain, Eds. Operator Theory, Advances and Applications, Vol. **110**, pp. 13–21, Birkhäuser, Basel and Boston, 1999.
- [47] (with M. Cuesta) *A Strong Comparison Principle for Positive Solutions of Degenerate Elliptic Equations*, Differential and Integral Equations, **13**(4–6) (2000), 721–746.
- [48] (with A. Jüngel) *A nonstiff Euler discretization of the complex Ginzburg-Landau equation in one space dimension*, SIAM J. Numer. Anal., **38**(1) (2000), 292–328.
- [49] *Stabilization of positive solutions for analytic gradient-like systems*, Discrete and Continuous Dynamical Systems, **6**(4) (2000), 947–973.
- [50] *Bifurcations and vortex formation in the Ginzburg-Landau equations*, Z. angew. Math. Mech., **81**(8) (2001), 523–539.
- [51] (with B. Alziary und J. Fleckinger) *Positivity and Negativity of Solutions to a Schrödinger Equation in  $\mathbb{R}^N$* , Positivity, **5**(4) (2001), 359–382.
- [52] (with S.-Z. Huang) *Convergence in gradient-like systems which are asymptotically autonomous and analytic*, Nonlinear Analysis, **46**(5) (2001), 675–698.

- [53] (with E. Feireisl) *Long-time stabilization of solutions to the Ginzburg-Landau equations of superconductivity*, Monatshefte für Mathematik, **133** (2001), 197–221.
- [54] (with L. Tello and M. Ulm) *Variational problems with a  $p$ -homogeneous energy*, Positivity, **6**(1) (2002), 75–94.
- [55] (with R. F. Manásevich) *On the Fredholm Alternative for the  $p$ -Laplacian in One Dimension*, Proc. London Math. Society, (3)**84** (2002), 324–342. *Online:* doi: [10.1112/plms/84.2.324](https://doi.org/10.1112/plms/84.2.324).
- [56] (with J. Fleckinger) *An improved Poincaré inequality and the  $p$ -Laplacian at resonance for  $p > 2$* , Advances in Differential Equations, **7**(8) (2002), 951–971.
- [57] *On the Fredholm alternative for the  $p$ -Laplacian at the first eigenvalue*, Indiana Univ. Math. J., **51**(1) (2002), 187–237.
- [58] *On the number and structure of solutions for a Fredholm alternative with the  $p$ -Laplacian*, J. Differential Equations, **185** (2002), 306–347.
- [59] (with E. Coskun and Z. Cakir) *Nucleation of vortices with a temperature and time-dependent Ginzburg-Landau model of superconductivity*, Euro. Jnl of Applied Math., **14** (2003), 111–127. *Online:* doi: [10.1017/S0956792502004990](https://doi.org/10.1017/S0956792502004990).
- [60] (with B. Alziary and J. Fleckinger) *Eigenfunctions and Hardy inequalities for a magnetic Schrödinger operator in  $\mathbf{R}^2$* , Math. Methods Appl. Sci., **26** (2003), 1093–1136.
- [61] (with P. Drábek, P. Girg and M. Ulm) *The Fredholm alternative for the  $p$ -Laplacian: bifurcation from infinity, existence and multiplicity of solutions*, Indiana Univ. Math. J., **53**(2) (2004), 433–482.
- [62] (with P. Drábek and P. Girg) *Bounded perturbations of homogeneous quasilinear operators using bifurcations from infinity*, J. Differential Equations, **204**(2) (2004), 265–291.
- [63] *Nonlinear Spectral Problems for Degenerate Elliptic Operators*, in M. Chipot and P. Quittner; eds., “*Handbook of Differential Equations: Stationary Partial Differential Equations*”, Vol. **1**, pp. 385–489. Elsevier Science B.V., Amsterdam, The Netherlands, 2004.
- [64] (with B. Alziary and J. Fleckinger) *Variational methods for a resonant problem with the  $p$ -Laplacian in  $\mathbb{R}^N$* , Electronic J. Diff. Equations, **2004**(76) (2004), 1–32.
- [65]  *$L^\infty$ -Bounds for Weak Solutions of an Evolutionary Equation with the  $p$ -Laplacian*, in P. Drábek and J. Rákosník; eds., Proceedings of the 2004 International Conference on “*Function Spaces, Differential Operators and Nonlinear Analysis*” (FSDONA) in honor of Alois Kufner, May 28 – June 2, 2004, Brno-Milovy, Czech Republic, pp. 327–354. Math. Inst. of the Academy of Sciences of the Czech Republic (MÚ AV ČR), Prague, 2005.
- [66] *A variational approach to the Fredholm alternative for the  $p$ -Laplacian near the first eigenvalue*, J. Dynamics Diff. Equations, **18**(3) (2006), 693–765. *Online:* doi: [10.1007/s10884-006-9017-2](https://doi.org/10.1007/s10884-006-9017-2).
- [67] (with P. Drábek) *Poincaré inequality and Palais-Smale condition for the  $p$ -Laplacian*, Calc. Variations, **29** (2007), 31–58. *Online:* doi: [10.1007/s00526-006-0055-8](https://doi.org/10.1007/s00526-006-0055-8).
- [68] (with B. Alziary and J. Fleckinger) *Ground-state positivity, negativity, and compactness for a Schrödinger operator in  $\mathbb{R}^N$* , J. Funct. Anal., **245**(1) (2007), 213–248. *Online:* doi: [10.1016/j.jfa.2006.12.007](https://doi.org/10.1016/j.jfa.2006.12.007).

- [69] (with J. Giacomoni and I. Schindler) *Sobolev versus Hölder local minimizers and existence of multiple solutions for a singular quasilinear equation*, Annali Scuola Norm. Sup. Pisa, Ser. V, **6**(1) (2007), 117–158.
- [70] (with B. Alziary) *Compactness for a Schrödinger operator in the ground-state space over  $\mathbb{R}^N$* , Electr. J. Differential Equations, Conf. **16** (2007), 35–58. In Proceedings of the 2006 International Conference on “Partial Differential Equations and Applications” in honor of Jacqueline Fleckinger, June 30 – July 1, 2006, Toulouse, France.
- [71] (with K. Tintarev) *Generalized minimizer solutions for equations with the  $p$ -Laplacian and a potential term*, Proc. Royal Soc. Edinburgh, **138 A** (2008), 201–221.
- [72] (with P. Girg) *Bifurcations of positive and negative continua in quasilinear elliptic eigenvalue problems*, Annales Henri Poincaré, **9** (2008), 275–327. *Online:* doi: [10.1007/s00023-008-0356-x](https://doi.org/10.1007/s00023-008-0356-x).
- [73] (with B. Alziary) *Intrinsic ultracontractivity of a Schrödinger semigroup in  $\mathbb{R}^N$* , J. Funct. Anal., **256** (2009), 4095–4127. *Online:* doi: [10.1016/j.jfa.2009.02.013](https://doi.org/10.1016/j.jfa.2009.02.013).
- [74] *Stationary radial solutions for a quasilinear Cahn-Hilliard model in  $N$  space dimensions*, Electr. J. Differential Equations, Conf. **17** (2009), 227–254. In Proceedings of the “Seventh Mississippi State - UAB Conference on Differential Equations and Computational Simulations”, November 1 – 3, 2007, Birmingham, Alabama, U.S.A.
- [75] (with J. Benedikt and P. Girg) *On the Fredholm alternative for the  $p$ -Laplacian at higher eigenvalues (in one dimension)*, Nonlinear Analysis, T.M.A., **72**(6) (2010), 3091–3107.
- [76] (with J. F. Pádal and L. Tello) *An antimaximum principle for a degenerate parabolic problem*, Advances in Differential Equations, **15**(7–8) (2010), 601–648.
- [77] *Variational methods and linearization tools towards the spectral analysis of the  $p$ -Laplacian, especially for the Fredholm alternative (lecture notes for advanced Ph.D. students)*, Electr. J. Differential Equations, Conf. **18** (2010), 67–105. In Proceedings of the Conference on “Variational and Topological Methods: Theory, Applications, Numerical Simulations, and Open Problems, II”, May 23 –27, 2007, Flagstaff, Arizona, U.S.A.
- [78] (with A. Derlet and J.-P. Gossez) *Minimization of eigenvalues for a quasilinear elliptic Neumann problem with indefinite weight*, J. Math. Anal. Appl., **371** (2010), 69–79. *Online:* doi: [10.1016/j.jmaa.2010.03.068](https://doi.org/10.1016/j.jmaa.2010.03.068).
- [79] (with P. Drábek) *On variational eigenvalues of the  $p$ -Laplacian which are not of Ljusternik-Schnirelmann-type*, J. London Math. Society, **81**(2) (2010), 625–649. *Online:* doi: [10.1112/jlms/jdq006](https://doi.org/10.1112/jlms/jdq006).
- [80] (with M. Cuesta) *Nonlinear eigenvalue problems for degenerate elliptic systems*, Differential and Integral Equations, **23**(11–12) (2010), 1117–1138.
- [81] (with P. Drábek and R. F. Manásevich) *Manifolds of critical points in a quasilinear model for phase transitions*, In D. Bonheure, M. Cuesta, E. J. Lami Dozo, P. Takáč, J. Van Schaftingen, and M. Willem; eds., “Nonlinear Elliptic Partial Differential Equations”, Proceedings of the 2009 “International Workshop in Nonlinear Elliptic PDEs,” A celebration of Jean-Pierre Gossez’s 65-th birthday, September 2–4, 2009, Brussels, Belgium. Contemporary Mathematics, Vol. **540**, pp. 95–134, American Mathematical Society, Providence, R.I., U.S.A., 2011.



- [82] (with Y. Sh. Il'yasov) *Optimal  $W_{\text{loc}}^{2,2}$ -regularity, Pohozaev's identity, and nonexistence of weak solutions to some quasilinear elliptic equations*, J. Differential Equations, **252** (2012), 2792–2822. *Online:* doi: [10.1016/j.jde.2011.10.020](https://doi.org/10.1016/j.jde.2011.10.020).
- [83] (with E. Feireisl and H. Petzeltová) *Travelling waves in a convection-diffusion equation*, J. Differential Equations, **252** (2012), 2296–2310.
- [84] (with A. Derlet) *A quasilinear parabolic model for population evolution*, Diff. Equations and Applications, **4**(1) (2012), 121–136.
- [85] (with J. Benedikt and P. Girg) *Perturbation of the  $p$ -Laplacian by vanishing nonlinearities (in one dimension)*, Nonlinear Analysis, T.M.A., **75**(8) (2012), 3691–3703. *Online:* doi: [10.1016/j.na.2012.01.026](https://doi.org/10.1016/j.na.2012.01.026).
- [86] *Space-time analyticity of weak solutions to linear parabolic systems with variable coefficients*, J. Funct. Anal., **263** (2012), 50–88. *Online:* doi: [10.1016/j.jfa.2012.04.008](https://doi.org/10.1016/j.jfa.2012.04.008).
- [87] (with B. Alziary) *Option pricing for stocks with dividends: an analytic approach by PDEs*, Monografías de la Real Academia de Ciencias de Zaragoza, **38** (2012), 125–136.
- [88] (with J. Giacomoni and I. Schindler) *Régularité höldérienne pour des équations quasi-linéaires elliptiques singulières*, Comptes Rendus de l'Académie des Sciences de Paris, Série I, **350** (2012), 383–388. *Online:* <http://dx.doi.org/10.1016/j.crma.2012.04.007>.
- [89] (with J. Giacomoni and I. Schindler) *Singular quasilinear elliptic systems and Hölder regularity*, Diff. Int. Equations, ??(?) (2012), ???–???. submitted for publication.

## BOOKS

- [1] (with P. Drábek and P. Krejčí) “*Nonlinear Differential Equations*”. Lectures at the 1998 Summer School, 1998, Prague, Czech Republic. Chapman & Hall/CRC Research Notes in Mathematics, Vol. **404**, CRC Press LLC, Boca Raton, FL, U.S.A., 1999. (Formerly Pitman Mathematics Series.)
- [2] (with J. Roßmann and G. Wildenhain) “*The Maz’ya Anniversary Collection*”, Vol. 1 and 2. Proceedings of the Rostock Conference on Functional Analysis, Partial Differential Equations and Applications, Aug. 31 – Sept. 4, 1998, Rostock, Germany. Operator Theory, Advances and Applications, Vol. **109** and **110**, Birkhäuser, Basel and Boston, 1999.

## TEN SELECTED ARTICLES from the Publication List

- [1] *Invariant 2-tori in the time-dependent Ginzburg-Landau equation*, Nonlinearity, **5**(2) (1992), 289–321.
- [2] *A construction of stable subharmonic orbits in monotone time-periodic dynamical systems*, Monatshefte für Mathematik, **115** (1993), 215–244.
- [3] (with P. Bollerman, A. Doelman, A. van Harten and E. S. Titi) *Analyticity of essentially bounded solutions to semilinear parabolic systems and validity of the Ginzburg-Landau equation*, SIAM J. Math. Anal., **27**(2) (1996), 424–448.
- [4] (with M. Cuesta) *A Strong Comparison Principle for Positive Solutions of Degenerate Elliptic Equations*, Differential and Integral Equations, **13**(4–6) (2000), 721–746.
- [5] *Stabilization of positive solutions for analytic gradient-like systems*, Discrete and Continuous Dynamical Systems, **6**(4) (2000), 947–973.
- [6] (with J. Fleckinger) *An improved Poincaré inequality and the  $p$ -Laplacian at resonance for  $p > 2$* , Advances in Differential Equations, **7**(8) (2002), 951–971.
- [7] (with P. Drábek, P. Girg and M. Ulm) *The Fredholm alternative for the  $p$ -Laplacian: bifurcation from infinity, existence and multiplicity of solutions*, Indiana Univ. Math. J., **53**(2) (2004), 433–482.
- [8] (with B. Alziary and J. Fleckinger) *Ground-state positivity, negativity, and compactness for a Schrödinger operator in  $\mathbb{R}^N$* , J. Funct. Anal., **245** (2007), 213–248. *Online:* doi: [10.1016/j.jfa.2006.12.007](https://doi.org/10.1016/j.jfa.2006.12.007).
- [9] (with B. Alziary) *Intrinsic ultracontractivity of a Schrödinger semigroup in  $\mathbb{R}^N$* , J. Funct. Anal., **256** (2009), 4095–4127. *Online:* doi: [10.1016/j.jfa.2009.02.013](https://doi.org/10.1016/j.jfa.2009.02.013).
- [10] *Space-time analyticity of weak solutions to linear parabolic systems with variable coefficients*, J. Funct. Anal., **263** (2012), 50–88. *Online:* doi: [10.1016/j.jfa.2012.04.008](https://doi.org/10.1016/j.jfa.2012.04.008).