

Bibliography

- [1] R. ABRAHAM & J. W. ROBBIN. *Transversal Mappings and Flows*. Benjamin, 1967.
- [2] R. A. ADAMS. *Sobolev spaces*. Academic Press, 1975.
- [3] J. C. ALEXANDER & G. AUCHMUTY. Global bifurcations of phase locked oscillators. *Arch. Rat. Mech. Anal.*, 93, 253-270, 1986.
- [4] A. AMBROSETTI & I. EKELAND. Perturbation results for a class of Hamiltonian systems with singularities. *Proc. Roy. Soc. Edinburgh*, 114, -13, 1989.
- [5] S. ANGENENT. The Morse-Smale property for semilinear parabolic equations. *J. Diff. Equat.*, 62, 427-442, 1986.
- [6] D. ARMBRUSTER & P. CHOSSAT. Heteroclinic cycles in a spherically invariant system. *Physica D*, 50, 155-176, 1991.
- [7] D. ARMBRUSTER & G. DANGELMAYR. Coupled stationary bifurcations in a non-flux boundary value problem. *Math. Proc. Cambridge Phil. Soc.*, 101, 167-192, 1991.
- [8] D. ARMBRUSTER, J. GUCKENHEIMER & P. HOLMES. Heteroclinic cycles and modulated waves in systems with $O(2)$ symmetry. *Physica D*, 29, 257-282, 1988.
- [9] D. G. ARONSON, M. GOLUBITSKY & M. KRUPA. Coupled arrays of Josephson junctions and bifurcation of maps with S_N symmetry. *Nonlinearity*, 4, 861-902, 1991.
- [10] D. G. ARONSON, M. GOLUBITSKY & J. MALLET-PARET. Ponies on a merry-go-round in large arrays of Josephson junctions. *Nonlinearity*, 4, 903-910, 1991.
- [11] P. ASHWIN & P. CHOSSAT. Attractors for robust heteroclinic sets with a continuum of connections. *preprint*, 1996.
- [12] P. ASHWIN & I. MELBOURNE. Noncompact drift for relative equilibria and relative periodic orbits. *Nonlinearity*, 10, 595-616, 1997.

- [13] A. V. BABIN. Symmetrization properties of parabolic equations in symmetric domains. *J. Dyn. and Diff. Equat.*, 6(4), 639-658, 1994.
- [14] J. M. BALL & D. G. SCHAEFFER. Bifurcation and stability of homogeneous equilibrium configurations of an elastic body under dead-load tractions. *Math. Proc. Cambridge Phil. Soc.*, 94, 315-339, 1983.
- [15] D. BARKLEY. Linear stability analysis of rotating spiral waves in excitable media. *Phys. Rev. Lett.*, 68, 2090-2093, 1992.
- [16] D. BARKLEY. Euclidean symmetry and the dynamics of rotating spiral waves. *Phys. Rev. Lett.*, 72, 164-167, 1994.
- [17] T. BARTSCH. *Topological Methods for Variational Problems with Symmetries*, Lecture Notes in Mathematics 1560. Springer Verlag, 1993.
- [18] P. BELTRAME, P. CHOSSAT & P. LAURE. Convection en double diffusion dans une coque spherique. *C. R. Acad. Sci. Paris, Ser. I*, 325(9), 1049-1052, 1997.
- [19] V. BENCI. A geometrical index for the group S^1 and some applications to the study of periodic solutions of ordinary differential equations. *Comm. Pure and Appl. Math.*, 34, 393-432, 1981.
- [20] L. C. BIEDENHARN & J. LOUCK. *Angular Momentum in Quantum Mechanics, Theory and Applications*. Addison-Wesley Publ. Co., 1981.
- [21] E. BIERSTONE. General position of equivariant maps. *Trans. Am. Math. Soc.*, 234, 447-466, 1977.
- [22] I. BOSCH-VIVANCOS, P. CHOSSAT & I. MELBOURNE. New planforms of systems of partial differential equations with Euclidean symmetry. *Arch. Rat. Mech. Anal.*, 131(3), 199-224, 1995.
- [23] G. E. BREDON. *Introduction to Compact Transformation Groups*. Academic Press, 1972.
- [24] G. E. BREDON. *Topology and Geometry*, Graduate Texts in Math. 139. Springer, 1993.
- [25] T. BRÖCKER & T. TOM DIECK. *Representations of Compact Lie Groups*, Graduate Texts in Mathematics 98. Springer Verlag, 1985.
- [26] J. J. BURCKHARDT. *Die Bewegungsgruppen der Kristallographie*. Birkhäuser, 1966.
- [27] F. H. BUSSE. Pattern of convection in spherical shells. *J. Fluid Mech.*, 72, 65-85, 1975.
- [28] F. H. BUSSE & K. HEIKES. Convection in a rotating layer: a simple case of turbulence. *Science*, 208, 173, 1980.
- [29] F. H. BUSSE & N. RIAHI. Pattern of convection in spherical shells, II. *J. Fluid Mech.*, 123, 283-301, 1982.
- [30] E. BUZANO, G. GEYMONAT & T. POSTON. Post-buckling behavior of a nonlinearly hyperelastic thin rod with cross-section invariant under the dihedral group D_n . *Arch. Rat. Mech. Anal.*, 89(4), 307-388, 1985.
- [31] J. CARR. *Application of Centre Manifold Theory*, Appl. Math. Sc. 35. Springer Verlag, 1981.

- [32] S. CHANDRASEKHAR. *Hydrodynamic and Hydromagnetic stability*. Dover, 1961.
- [33] X.-Y. CHEN & P. POLÁČIK. Asymptotic periodicity of positive solutions of reaction diffusion equations on a ball. *J. Reine Angew. Math.*, 472, 17-51, 1996.
- [34] D. R. J. CHILLINGWORTH. Bifurcation from a manifold. In M. Roberts & I. Stewart, editors, *Singularity Theory and Its Applications, Warwick 1989, Part II*. Springer Verlag, 1991. Lecture Notes in Mathematics 1463.
- [35] D. R. J. CHILLINGWORTH. The Signorini perturbation scheme in an abstract setting. *Proc. Roy. Soc. Edinburgh*, 119A, 373-395, 1991.
- [36] D. R. J. CHILLINGWORTH, J. E. MARSDEN & Y. WAN. Symmetry and bifurcation in three-dimensional elasticity. i. *Arch. Rat. Mech. Anal.*, 80, 295-331, 1982.
- [37] D. R. J. CHILLINGWORTH, J. E. MARSDEN & Y. WAN. Symmetry and bifurcation in three-dimensional elasticity. ii. *Arch. Rat. Mech. Anal.*, 83, 363-395, 1983.
- [38] P. CHOSSAT. Interactions entre bifurcations par brisure partielle de symétrie sphérique. *Ann. Scient. de l'Ecole Normale Sup. 4^e série*, 15, 1982.
- [39] P. CHOSSAT. Solutions avec symétrie diédrale dans les problèmes de bifurcation invariants par symétrie sphérique. *C. R. Acad. Sci. Paris, Ser. I*, 297, 639-642, 1983.
- [40] P. CHOSSAT. Bifurcations secondaire de solutions quasi périodique dans un problème de bifurcation de Hopf invariant pas symétrie $O(2)$. *CRAS*, 302, 539-541, 1986.
- [41] P. CHOSSAT. Forced reflectional symmetry breaking of an $O(2)$ -symmetric homoclinic cycle. *Nonlinearity*, 6, 723-731, 1993.
- [42] P. CHOSSAT & M. FIELD. Geometric analysis of the effect of symmetry breaking on an $O(2)$ -invariant homoclinic cycle. In W. Langford, editor, *Normal forms and homoclinic chaos, Proceedings of a Workshop, held at The Fields Institute for Research in Mathematical Sciences*, 21-42, 1995.
- [43] P. CHOSSAT & M. GOLUBITSKY. Hopf bifurcation in the presence of symmetry, center manifold and lyapunov-schmidt reduction. In F. V. Atkinson, W. F. Langford & A. B. Mingarell, editors, *Oscillation, Bifurcation and Chaos*, 343-352. Amer. Math. Soc., 1987.
- [44] P. CHOSSAT & M. GOLUBITSKY. Iterates of maps with symmetry. *SIAM J. Math. Anal.*, 19, 1259-1270, 1988.
- [45] P. CHOSSAT & M. GOLUBITSKY. Symmetry increasing bifurcation of chaotic attractors. *Physica D*, 32, 432-436, 1988.
- [46] P. CHOSSAT & F. GUYARD. Heteroclinic cycles in bifurcation problems with $O(3)$ symmetry and the spherical Bénard problem. *J. Nonl. Sc.*, 6, 201-238, 1996.

- [47] P. CHOSSAT, F. GUYARD & R. LAUTERBACH. Heteroclinic sets in spherically invariant systems and their perturbations. *J. Nonl. Sc.*, 9, 479-524, 1999.
- [48] P. CHOSSAT & G. IOOSS. *The Couette-Taylor Problem*, Studies in Applied Mathematics 102. Springer Verlag, 1994.
- [49] P. CHOSSAT, M. KÆNIG & J. MONTALDI. Bifurcation générique d'ondes rotatives d'isotropie maximale. *C. R. Acad. Sci. Paris*, Ser. I, 320, 25-30, 1995.
- [50] P. CHOSSAT, M. KRUPA, I. MELBOURNE & A. SCHEEL. Transverse bifurcations of homoclinic cycles. *Physica D*, 100, 85-100, 1997.
- [51] P. CHOSSAT, M. KRUPA, I. MELBOURNE & A. SCHEEL. Magnetic dynamos in rotating convection- a dynamical systems approach. *Dyn. of Cont., Discr. and Imp. Syst.*, 5, 327-340, 1999.
- [52] P. CHOSSAT & R. LAUTERBACH. The instability of axisymmetric solutions in problems with spherical symmetry. *SIAM J. Math. Anal.*, 20, 31-38, 1989.
- [53] P. CHOSSAT & R. LAUTERBACH. Théorème de Hartman-Grobman et réduction à l'espaces des orbites. *C. R. Acad. Sci. Paris*, Ser. I, 325, 595-600, 1997.
- [54] P. CHOSSAT, R. LAUTERBACH & I. MELBOURNE. Steady-state bifurcation with $O(3)$ -symmetry. *Arch. Rat. Mech. Anal.*, 113(4), 313-376, 1991.
- [55] S. N. CHOW, B. DENG & B. FIEDLER. Homoclinic bifurcation at resonant eigenvalues. *J. Dyn. and Diff. Equat.*, 2, 177-244, 1990.
- [56] S.-N. CHOW & R. LAUTERBACH. A bifurcation theorem for critical points of variational problems. *Nonl. Anal., TMA*, 12, 51-61, 1988.
- [57] G. CICOGNA. Symmetry breakdown from bifurcation. *Lettere al Nuovo Cimento*, 31, 600-602, 1981.
- [58] M. CLAPP & D. PUPPE. Critical point theory with symmetry. *J. Reine Angew. Math.*, 418, 1-29, 1991.
- [59] M. CLAPP & D. PUPPE. Critical point theory of symmetric functions and closed geodiscs. *Diff. Geom. Appl.*, 6(4), 367-396, 1996.
- [60] P. COLLET & J.-P. ECKMANN. *Instabilities and fronts in extended systems*. Princeton University Press, Princeton, NJ, 1990.
- [61] J. COLLINS & I. STEWART. A group theoretic approach to rings of coupled biological oscillators. *Biol. Cybern.*, 71(2), 95-103, 1994.
- [62] C. CONLEY. *Isolated Invariant Sets and the Morse Index*, Reg. Conf. Ser. Math. 38. Am. Math. Soc., 1978.
- [63] P. COULLET. Ginzberg-Landau models of non-equilibrium partially integrable equations in physics. In *Proc. Nato Asi les Houches France*, Asi Series C 130, 261-275, 1990.
- [64] P. COULLET. Le pendule et le coquillage. *La Recherche*, 305, 78-82, 1998.
- [65] M. G. CRANDALL & P. H. RABINOWITZ. Bifurcation from simple eigenvalues. *J. Funct. Anal.*, 8, 321-340, 1971.

- [66] M. G. CRANDALL & P. H. RABINOWITZ. The Hopf bifurcation theorem in infinite dimensions. *Arch. Rat. Mech. Anal.*, 67, 53-72, 1978.
- [67] J. D. CRAWFORD, M. GOLUBITSKY, M. GOMES, E. KNOBLOCH & I. N. STEWART. Boundary conditions as symmetry constraints. In M. Roberts & I. Stewart, editors, *Singularity Theory and Its Applications, Warwick 1989, Part II*. Springer Verlag, 1991. Lecture Notes in Mathematics 1463.
- [68] C. W. CURTIS & I. REINER. *Methods of Representation Theory, With Applications to Finite Groups and Orders*. John Wiley & Sons, 1981.
- [69] R. CUSHMAN & J. SANDERS. Nilpotent normal forms and representation theory of $\mathfrak{sl}(2, \mathbb{R})$. In M. Golubitsky & J. Guckenheimer, editors, *Multiparameter Bifurcation Theory*. American Mathematical Society, 1986.
- [70] J. DAMON. \mathcal{A} -equivalence and the equivalence of sections of images and discriminants. In D. Mond & J. Montaldi, editors, *Singularity Theory and Its Applications, Warwick 1989, Part I*. Springer Verlag, 1991. Lecture Notes in Mathematics 1462.
- [71] J. DAMON. Topological triviality and versality of \mathcal{A} and \mathcal{K} : II sufficient conditions and applications. *Nonlinearity*, 5, 373-413, 1992.
- [72] E. N. DANCER. The G -invariant implicit function theorem in infinite dimensions. *Proc. Roy. Soc. Edinburgh*, 92A, 13-30, 1982.
- [73] E. N. DANCER. Perturbation of zeros in the presence of symmetries. *J. Austr. Math. Soc.*, 36, 106-125, 1984.
- [74] G. DANGELMAYR & E. KNOBLOCH. The Takens-Bogdanov bifurcation with $O(2)$ symmetry. *Phil. Trans. Royal Soc. London*, 322, 243-279, 1987.
- [75] G. DANGELMAYR & E. KNOBLOCH. Hopf bifurcation with broken circular symmetry. *Nonlinearity*, 4, 399-428, 1991.
- [76] G. DANGELMAYR & E. KNOBLOCH. Parity breaking bifurcation in inhomogeneous systems. *Nonlinearity*, 10(5), 1093-1114, 1997.
- [77] M. DELLNITZ, M. GOLUBITSKY, A. HOHMANN & I. STEWART. Spirals in scalar reaction-diffusion equations. *Preprint, Warwick*, 18/95, 1-27, 1995.
- [78] M. DELLNITZ & B. WERNER. Computational methods for bifurcation problems with symmetries – with special attention to steady state and Hopf bifurcation points. *J. Comput. Appl. Math.*, 26, 97-123, 1989.
- [79] B. DENG. The sil'nikov problem, exponential expansion, strong λ -lemma, C^1 -linearization, and homoclinic bifurcation. *J. Diff. Equat.*, 79, 189-231, 1989.
- [80] J. DIEUDONNÉ. *Foundations of Modern Analysis*, Vol 1. Academic Press, 1960.
- [81] J. DIEUDONNÉ. *Grundzüge der modernen Analysis*, Bd 1. VEB Deutscher Verlag der Wissenschaften, 1972.
- [82] B. DIONNE & M. GOLUBITSKY. Planforms in two and three dimensions. *Zeitschr. Ang. Math. Phys.*, 43, 34-62, 1992.
- [83] G. L. DOS REIS. Structural stability of equivariant vector fields on two manifolds. *Trans. Am. Math. Soc.*, 283(2), 633-643, 1984.

- [84] C. ELPHICK, E. TIRAPEGUI, M. BRACHET, P. COULLET & G. IOOSS. A simple global characterization for normal forms of singular vector fields. *Physica D*, 29, 95-127, 1987.
- [85] N. FENICHEL. Persistence and smoothness of invariant manifolds and flows. *Indiana Univ. Math. J.*, 21, 193-226, 1971/72.
- [86] B. FIEDLER. *Global Bifurcation of Periodic Solutions with Symmetry*, Lecture Notes in Mathematics 1309. Springer Verlag, 1990.
- [87] B. FIEDLER, B. SANDSTED, A. SCHEEL & C. WULFF. Bifurcation from relative equilibria of noncompact group actions: skew products, meanders and drifts. *Doc. Math. J. DMV*, 1, 479-505, 1996.
- [88] B. FIEDLER & D. TURAEV. Normal forms, resonances, and meandering tip motions near relative equilibria of euclidean group actions. *Preprint DAnSE*, 14/97, 1997.
- [89] M. FIELD. Transversality in G -manifolds. *Trans. Am. Math. Soc.*, 231(4), 429-450, 1977.
- [90] M. FIELD. Equivariant dynamical systems. *Trans. Am. Math. Soc.*, 259(1), 185-205, 1980.
- [91] M. FIELD. Equivariant bifurcation theory and symmetry breaking. *J. Dyn. Diff. Equat.*, 1, 369-421, 1989.
- [92] M. FIELD. Local structure of equivariant dynamics. In M. Roberts & I. Stewart, editors, *Singularity Theory and its Applications, Warwick 1989*, Part II. Springer Verlag, 1991. Lecture Notes in Mathematics 1463.
- [93] M. FIELD. *Lectures on bifurcations, dynamics and symmetry*, Pitman Research Notes in Mathematics Series 336. Longman, 1996.
- [94] M. FIELD. *Symmetry Breaking for Compact Lie Groups*, Memoirs of the American Math. Society 120. Amer. Math. Soc., 1996.
- [95] M. FIELD, M. GOLUBITSKY & M. NICOL. C^0 density of symmetries of invariant sets with compact group actions. *Preprint*, (to appear).
- [96] M. FIELD & R. W. RICHARDSON. Symmetry breaking and the maximal subgroup conjecture. *Arch. Rat. Mech. Anal.*, 105(1), 61-94, 1989.
- [97] M. FIELD & R. W. RICHARDSON. Symmetry breaking and branching patterns in equivariant bifurcation theory, I. *Arch. Rat. Mech. Anal.*, 118, 297-348, 1992.
- [98] M. FIELD & R. W. RICHARDSON. Symmetry breaking and branching patterns in equivariant bifurcation theory, II. *Arch. Rat. Mech. Anal.*, 120, 147-190, 1992.
- [99] M. FIELD & J. W. SWIFT. Stationary bifurcation to limit cycles and heteroclinic cycles. *Nonlinearity*, 4, 101-1043, 1991.
- [100] A. FRIEDMAN. *Partial Differential Equations of Parabolic Type*. Prentice Hall, 1964.
- [101] G. FRIESECKE & J. WATTIS. Existence theorem for solitary waves on lattices. *Comm. Math. Phys.*, 161, 391-418, 1994.

- [102] H. FUJII, M. MIMURA & Y. NISHIURA. A picture of the global bifurcation diagram in ecological interacting and diffusing systems. *Physica D*, 5, 1-42, 1967.
- [103] W. FULTON & J. HARRIS. *Representation Theory*, Graduate Texts in Mathematics 129. Springer, 1991.
- [104] J.-E. FURTER, A. M. SITTA & I. STEWART. Singularity theory and equivariant bifurcation problems with parameter symmetry. *Math. Proc. Cambridge Phil. Soc.*, 120, 547-578, 1996.
- [105] G. GAETA. Bifurcation theory and nonlinear symmetries. *Nonl. Anal., TMA*, 17(9), 825-831, 1991.
- [106] K. GATERMANN. Computation of bifurcation graphs. In G. Allgower, K. Georg & Miranda, editors, *Exploiting Symmetry in Applied and Numerical Analysis*, Lectures in Applied Mathematics 29, 187-201, 1993.
- [107] K. GATERMANN. *Computer Algebra methods for Equivariant Dynamical Systems*. Habilitationsschrift, Freie Universität Berlin, 1998.
- [108] K. GATERMANN & F. GUYARD. Gröbner bases, invariant theory and equivariant dynamics. *Preprint ZIB*, SC 96-37, 1-32, 1996.
- [109] K. GEBA, W. KRAWCOWICZ & J. WU. An equivariant degree with applications to symmetric bifurcation problems. i construction of the degree. *Proc. London Math. Soc., III. Ser.*, 69(2), 377-398, 1994.
- [110] M. GEL'FAND, R. A. MINLOS & Z. Y. SHAPIRO. *Representation of the Rotation and Lorentz groups and their applications*. Pergamon Press, 1963.
- [111] B. GIDAS, W.-M. NI & L. NIRENBERG. Symmetry and related properties via the maximum principle. *Comm. Math. Phys.*, 68, 209-243, 1979.
- [112] D. GILBARG & N. S. TRUDINGER. *Elliptic Partial Differential Equations of Second Order*, Grundlehren der math. Wiss. 224. Springer Verlag, 1983.
- [113] M. GOLUBITSKY. The Bénard problem, symmetry, and the lattice of isotropy subgroups. In C. P. Bruter et al., editors, *Bifurcation Theory, Mechanics and Physics*. D. Reidel, 1983.
- [114] M. GOLUBITSKY & V. GUILLEMIN. *Stable Mappings and Their Singularities*, Graduate Texts in Mathematics 14. Springer Verlag, 1973.
- [115] M. GOLUBITSKY, V. G. LEBLANC & I. MELBOURNE. Meandering of the spiral tip, an alternative approach. *J. Nonl. Sc.*, 7(6), 557-586, 1997.
- [116] M. GOLUBITSKY & D. G. SCHAEFFER. A discussion of symmetry and symmetry breaking. *Proc. Symp. Pure Math.*, 40, 499-515, 1982.
- [117] M. GOLUBITSKY & D. G. SCHAEFFER. *Singularities and Groups in Bifurcation Theory*, Vol. I. Springer Verlag, 1985.
- [118] M. GOLUBITSKY & I. STEWART. Hopf bifurcation in presence of symmetry. *Arch. Rat. Mech. Anal.*, 87(2), 107-165, 1985.
- [119] M. GOLUBITSKY & I. STEWART. An algebraic criterion for Hopf bifurcation with symmetry. *Proc. Roy. Soc. London*, 440, 727-732, 1993.
- [120] M. GOLUBITSKY, I. STEWART & D. G. SCHAEFFER. *Singularities and Groups in Bifurcation Theory*, Vol. II. Springer Verlag, 1988.

- [121] M. GOLUBITSKY, J. SWIFT & E. KNOBLOCH. Symmetries and pattern selection in Rayleigh-Bénard convection. *Physica D*, 10, 249-276, 1984.
- [122] H. GÖRTLER, K. KIRCHGÄSSNER & P. SORGER. Branching solutions of the Bénard problem. In *Problems of Hydrodynamics and Continuum Mechanics, to the 60th birthday of the Academician L. I. Sedov*. Nauka, 1969.
- [123] D. GOTTLIEB & S. A. ORSZAG. *Numerical analysis of spectral method: theory and applications*, CBMS-NSF Regional Conf. Series in Applied Math 26. SIAM, 1977.
- [124] W. GOVAERTS. *Numerical Methods for Bifurcations of Dynamical Equilibria*. SIAM Publications, 2000.
- [125] J. GUCKENHEIMER & P. HOLMES. *Nonlinear Oscillations, Dynamical Systems and Bifurcations of Vector Fields*, Applied Mathematical Sciences 42. Springer Verlag, 1983.
- [126] J. GUCKENHEIMER & P. HOLMES. Structurally stable heteroclinic cycles. *Math. Proc. Cambridge Phil. Soc.*, 103, 189-192, 1988.
- [127] V. GUILLEMIN & A. POLLACK. *Differential Topology*. Prentice Hall, Inc., 1974.
- [128] F. GUYARD. to be published. *private communication*, 1999.
- [129] F. GUYARD & R. LAUTERBACH. Forced symmetry breaking perturbations for periodic solutions. *Nonlinearity*, 10, 291-310, 1997.
- [130] J. K. HALE. *Functional Differential Equations*, Applied Math. Sciences 3. Springer Verlag, 1971.
- [131] J. K. HALE. Introduction to dynamic bifurcation. In *Bifurcation theory and applications, Lect. 2nd Sess. CIME, Montecatini/Italy 1983*, Lect. Notes in Math. 1057. Springer Verlag, 1984.
- [132] M. HAMERMESH. *Group theory and its applications to physical problems*. Addison-Wesley, 1962.
- [133] P. HARTMAN. *Ordinary Differential Equations*. John Wiley & Sons, Corp., 1964.
- [134] D. HENRY. *Geometric Theory of Semilinear Parabolic Equations*, Lecture Notes in Mathematics 840. Springer Verlag, 1981.
- [135] D. HENRY. Some infinite dimensional Morse-Smalesystems defined by parabolic partial differential equations. *J. Diff. Equat.*, 59, 1985.
- [136] P. HESS & P. POLÁČIK. Symmetry and convergence properties for non-negative solutions of nonautonomous reaction-diffusion problems. *Proc. Roy. Soc. Edinburgh*, 124A, 573-587, 1994.
- [137] E. HEWITT & K. A. ROSS. *Abstract Harmonic Analysis I*, Grundlehren der math. Wiss. 115. Springer Verlag, 1963.
- [138] E. HEWITT & K. A. ROSS. *Abstract Harmonic Analysis II*, Grundlehren der math. Wiss. 152. Springer Verlag, 1970.
- [139] E. HEWITT & K. STROMBERG. *Real and abstract analysis*. Springer Verlag, 1969.
- [140] D. HILBERT. Über die vollen Invariantensysteme. *Math. Ann.*, 42, 313-373, 1893.

- [141] M. W. HIRSCH, C. C. PUGH & M. SHUB. *Invariant Manifolds*, Lecture Notes in Mathematics 583. Springer Verlag, 1977.
- [142] P. HIRSCHBERG & E. KNOBLOCH. Complex dynamics in the Hopf bifurcation with broken translational symmetry. *Physica D*, 90, 56-78, 1996.
- [143] J. HOFBAUER & K. SIGMUND. *The theory of evolution and dynamical systems. Mathematical aspects of selection*, London Math. Soc. Student Texts 7. Cambridge Univ. Press, 1988.
- [144] H. HOPF. *Lectures on Differential Geometry in the Large*. Stanford University, 1956.
- [145] C. HOU & M. GOLUBITSKY. An example of symmetry breaking to heteroclinic cycles. *J. Diff. Equat.*, 133, 30-48, 1997.
- [146] E. IHRIG & M. GOLUBITSKY. Pattern selection with $O(3)$ -symmetry. *Physica 13D*, 1-33, 1984.
- [147] G. IOOSS. *Bifurcations of maps and applications*, Math. Studies 36. Elsevier-North-Holland, 1979.
- [148] G. IOOSS. Bifurcation and transition to turbulence in hydrodynamics. In L. Salvadore, editor, *Lectures given at the 2nd 1983 Session of the Centro Internazionale Matematico Estivo held at Montecatini, Italy, June 24 - July 2, 1983*, Springer Lecture Notes 1057, Berlin, 1984. Springer Verlag.
- [149] G. IOOSS. Secondary bifurcations of Taylor vortices into wavy inflow or outflow boundaries. *J. Fluid Mech.*, 173, 273-288, 1986.
- [150] G. IOOSS & M. ADELMEYER. *Topics in Bifurcation Theory and Applications*, Adv. Ser. Nonl. Dyn. 3. World Scientific, 1992.
- [151] G. IOOSS & D. JOSEPH. *Elementary Stability and Bifurcation Theory*. Springer, 1981.
- [152] G. IOOSS & K. KIRCHGÄSSNER. Travelling waves in a chain of coupled nonlinear oscillators. *Preprint INLN*, 99.18, 1999.
- [153] V. IUDOVICH. Secondary flows and fluid instability between rotating cylinders. *J. Appl. Math. Mech. (PMM)*, 30, 688-698, 1966.
- [154] J. IZE & A. VIGNOLI. Equivariant degree for abelian actions Part I: Equivariant homotopy groups. *Top. Meth. in Nonl. Anal*, 2(2), 367-413, 1993.
- [155] J. IZE & A. VIGNOLI. Equivariant degree for abelian actions Part II: Index computations. *Top. Meth. in Nonl. Anal*, 7(2), 369-313, 1996.
- [156] W. JÄGER & K. SCHMITT. Symmetry breaking in semilinear elliptic problems. In P. Rabinowitz & E. Zehnder, editors, *Analysis Etcetera*. Acad. Press, 1990.
- [157] K. JÄNICH. *Differenzierbare G -Mannigfaltigkeiten*, Lecture Notes in Mathematics 59. Springer Verlag, Berlin, 1968.
- [158] M. V. JARIC. Nonmaximal isotropy subgroups and phase transitions. *phyrevl*, 51(23), 2073-2076, 1983.
- [159] M. V. JARIC, L. MICHEL & R. T. SHARP. Zeros of coveriant vector fields for the point groups: invariant formulation. *J. Physique*, 45(1), 1-27, 1984.
- [160] T. KATO. *Perturbation Theory for Linear Operators*, Grundle. d. math. Wiss. 132. Springer Verlag, 1976.

- [161] I. G. KEVREKIDIS, B. NICOLAENKO & J. SCOVEL. Back to the saddle: a computer-assisted study of the kuramoto-shivashinsky equation. *SIAM J. Appl. Math.*, 50(3), 760-700, 1989.
- [162] H. KIELHÖFER. A bifurcation theorem for potential operators. *J. Funct. Anal.*, 77, 1-8, 1988.
- [163] K. KIRCHGÄSSNER. Wave solutions of reversible systems and applications. *J. Diff. Equat.*, 45, 113-127, 1982.
- [164] K. KIRCHGÄSSNER & P. SORGER. Branching analysis for the Taylor problem. *Quarterly J. Mech. Appl. Math.*, 22, 183-210, 1969.
- [165] V. KIRK & M. SILBER. A competition between heteroclinic cycles. *Nonlinearity*, 7, 1605-1621, 1994.
- [166] G. H. KNIGHTLY & SATHER. Buckled states of a spherical shell under uniform external pressure. *Arch. Rat. Mech. Anal.*, 72, 315-380, 1980.
- [167] E. KNOBLOCH & M. SILBER. Hopf bifurcation with $\mathbb{Z}_4 \times \mathbb{T}^2$ -symmetry. In E. A. et al., editor, *Bifurcation and Symmetry*, ISNM 104, 241-252, 1992.
- [168] J. KNOBLOCH & A. VANDERBAUWHEDE. A general reduction method for periodic solutions in conservative and reversible systems. *J. Dyn. and Diff. Equat.*, 8(1), 71-102, 1996.
- [169] M. KÆNIG. *Une exploration des espaces d'orbites de groupes de Lie compacts et de leurs applications à l'étude des bifurcations avec symétrie*. Phd-thesis, Université de Nice-Sophia Antipolis, France, 1995.
- [170] M. KÆNIG. Linearization of vector fields on the orbit space of the action of a compact Lie group. *Math. Proc. Cambridge Phil. Soc.*, 121, 401-424, 1996.
- [171] E. KOSCHMIEDER. *Bénard cells and Taylor vortices*, Cambridge Monographs on Mechanics and Applied Maths. Cambridge Monographs on Mechanics and Applied Maths. Cambridge University Press, Cambridge, 1993.
- [172] M. KRUPA. Bifurcations of relative equilibria. *SIAM J. Math. Anal.*, 21(6), 1453-1486, 1990.
- [173] M. KRUPA. Robust heteroclinic cycles. *J. Nonl. Sc.*, to appear.
- [174] M. KRUPA & I. MELBOURNE. Asymptotic stability of heteroclinic cycles in systems with symmetry. *Ergod. Th. Dynam. Sys.*, 15(1), 121-147, 1995.
- [175] M. KRUPA & I. MELBOURNE. Nonasymptotically stable attractors in $O(2)$ mode interactions. In W. Langford & W. Nagata, editors, *Normal Forms and Homoclinic Chaos*. AMS, 1996.
- [176] J. S. LAMB. Reversing symmetries in dynamical systems. *J. Phys. A Math. Gen.*, 25(4), 925-937, 1992.
- [177] J. S. LAMB. k -symmetry and return maps of spacetime symmetric flows. *Nonlinearity*, 11(3), 601-629, 1998.
- [178] J. S. LAMB & I. MELBOURNE. Bifurcation from periodic solutions with spatiotemporal symmetry. In *Pattern Formation in Continuous and Coupled Systems*, 175-191. IMA, 1999.
- [179] S. LANG. *Algebra*. Addison-Wesley, 1970.

- [180] R. LAUTERBACH. An example of symmetry breaking with submaximal isotropy subgroup. In M. Golubitsky & J. Guckenheimer, editors, *Multiparameter Bifurcation Theory*. American Mathematical Society, 1986.
- [181] R. LAUTERBACH. *Problems with Spherical Symmetry - Studies on $O(3)$ -Equivariant Equations*. Habilitationsschrift, Univ. Augsburg, 1988.
- [182] R. LAUTERBACH & P. CHOSSAT. Exclusion of relative equilibria. In P. Chossat, editor, *Dynamics, Bifurcation and Symmetry, New Trends and New Tools*. Kluwer Academic Publishers, 1994.
- [183] R. LAUTERBACH & S. MAIER. Symmetry-breaking at non-positive solutions of semilinear elliptic equations. *Arch. Rat. Mech. Anal.*, 126(4), 299-331, 1994.
- [184] R. LAUTERBACH, S. MAIER & E. REISSNER. A systematic study of heteroclinic cycles in dynamical system with broken symmetries. *Proc. Roy. Soc. Edinburgh*, 126A, 885-909, 1996.
- [185] R. LAUTERBACH & M. ROBERTS. Heteroclinic cycles in dynamical systems with broken spherical symmetry. *J. Diff. Equat.*, 100, 428-448, 1992.
- [186] C. LEIS. Hopf-bifurcation in systems with spherical symmetry, part I: Invariant tori. *Documenta Mathematica, J.d. DMV*, 2, 61-113, 1997.
- [187] C. D. LEVERMORE & M. OLIVER. The complex Ginzberg-Landau equation as a model problem. In P. Deift, C. D. Levermore & C. E. Wayne, editors, *Dynamical Systems and Probabilistic Methods in Partial Differential Equations, Proc. AMS Summer Seminar Berkeley*, Lect. Appl. Math. 32, 141-190, Providence, R.I., 1996. AMS.
- [188] X.-B. LIN. Using Melnikov's method to solve Silnikov's problem. *Proc. Roy. Soc. Edinburgh*, 116A, 295-325, 1990.
- [189] S. MAIER-PAAPE & R. LAUTERBACH. Heteroclinic cycles for reaction diffusion systems by forced symmetry breaking. *Trans. Am. Math. Soc.*, (to appear), 1998.
- [190] J. MALLET-PARET & G. SELL. Inertial manifolds for reaction diffusion equations. *J. Amer. Math. Soc.*, 1, 805-866, 1988.
- [191] J. E. MARSDEN & M. MCCracken. *The Hopf bifurcation and its applications*, Appl. Math. Sci 19. Springer Verlag, 1976.
- [192] J. E. MARSDEN & T. RATIU. *Introduction to Mechanics and Symmetry*, Texts in Applied Mathematics 17. Springer-Verlag, 1994.
- [193] J. E. MARSDEN & Y. WAN. Symmetry and bifurcation in three-dimensional elasticity. *Arch. Rat. Mech. Anal.*, 84, 203-233, 1983.
- [194] J. N. MATHER. Stratifications and mappings. In M. Peixoto, editor, *Dynamical Systems*, New York, 1973. Academic Press.
- [195] R. MAY & W. LEONARD. Nonlinear aspects of competition between three species. *SIAM J. Math. Anal.*, 29, 243-252, 1975.
- [196] I. MELBOURNE. Maximal isotropy subgroups for absolutely irreducible representations of compact Lie groups. *Nonlinearity*, 7(5), 1385-1393, 1994.
- [197] I. MELBOURNE. Steady state bifurcation with Euclidean symmetry. *Preprint, Univ. Houston*, 214, 1-37, 1996.

- [198] I. MELBOURNE, P. CHOSSAT & M. GOLUBITSKY. Heteroclinic cycles involving periodic solutions in mode interactions with $O(2)$ -symmetry. *Proc. Roy. Soc. Edinburgh*, 113(5), 315-345, 1989.
- [199] L. MICHEL. Points critiques des fonctions G -invariantes. *Note aux Comptes-Rendus Acad. Sci. Paris, série A-B*, 272, A433-A436, 1971.
- [200] A. MIELKE. Reduction of quasilinear elliptic equations in cylindrical domains with applications. *Math. Meth. Appl. Sci.*, 10, 51-66, 1988.
- [201] A. MIELKE. *Hamiltonian and Langrangian flows on center manifolds with applications to elliptic variational problems*, Lecture Notes in Mathematics 1489. Springer, Heidelberg, 1991.
- [202] A. MIELKE & K. KIRCHGÄSSNER. *Structure and dynamics of nonlinear waves in fluids*, Advanced Series in Nonlinear Dynamics 7. World Scientific, Singapore, 1995.
- [203] W. MILLER. *Symmetry Groups and their Applications*. Academic Press, 1972.
- [204] G. W. MOSTOW. Equivariant embeddings in euclidean space. *Ann. Math*, 65(2), 432-446, 1957.
- [205] J. MURRAY. *Mathematical biology*, Biomathematics Text 19. Springer Verlag, 1989.
- [206] L. NACHBIN. *The Haar Integral*. Van Nostrand Co., 1965.
- [207] S. NETTESHEIM, A. VON OERTZEN, H. ROTERMUND & G. ERTL. Reaction diffusion patterns in the catalytic CO-oxidation on Pt(110)-front propagation and spiral waves. *J. Chem. Phys.*, 98, 9977-9985, 1993.
- [208] J. ORTEGA & T. RATIU. Stability of hamiltonian relative equilibria. *Nonlinearity*, 12(3), 693-720, 1999.
- [209] R. PALAIS. Imbedding of compact differentiable transformation groups in orthogonal representations. *J. math. Mech.*, 6, 673-678, 1957.
- [210] R. PALAIS. On the existence of slices for actions of non-compact lie groups. *Ann. Math*, 73, 295-323, 1961.
- [211] J. PALIS, JR. & W. DE MELO. *Geometric Theory of Dynamical Systems*. Springer Verlag, New York, 1982.
- [212] A. PAZY. *Semigroups of linear operators and applications to partial differential equations*, Appl. Math. Sc. 44. Springer Verlag, New York, 1983.
- [213] F. PETER & H. WEYL. Die Vollständigkeit der primitiven Darstellungen einer geschlossenen kontinuierlichen Gruppe. *Math. Ann.*, 97, 737-755, 1927.
- [214] V. POÉNARU. *Singularités C^∞ en Présence de Symétrie*, Lecture Notes in Mathematics 510. Springer Verlag, 1976.
- [215] P. POLÁČIK. Transversal and nontransversal intersections of stable and unstable manifolds in reaction diffusion equations on symmetric domains. *Diff. and Integral Equations*, 7, 1527-1545, 1994.
- [216] C. POSPIECH. A Dirichlet problem exhibiting global bifurcation with symmetry breaking. *SIAM J. Math. Anal.*, 21, 1426-1452, 1990.

- [217] P. H. RABINOWITZ. *Minimax methods in critical point theory with applications to differential equations*, Reg. Conf. Ser. Math. 65. Am. Math. Soc., 1986.
- [218] D. RAND. Dynamics and symmetry. predictions of modulated waves in rotating fluids. *Arch. Rat. Mech. Anal.*, 75, 1-38, 1982.
- [219] M. RENARDY. Bifurcation from rotating waves. *Arch. Rat. Mech. Anal.*, 79, 43-84, 1982.
- [220] A. M. RUCKLIDGE & P. MATTHEW. Analysis of the shearing instability in nonlinear analysis and magnetoconvection. *Nonlinearity*, 9, 1996.
- [221] W. RUDIN. *Functional Analysis*. Mc Graw Hill, Inc, 1973.
- [222] D. RUELLE. Bifurcation in the presence of a symmetry group. *Arch. Rat. Mech. Anal.*, 51, 136-152, 1973.
- [223] M. RUMBERGER & J. SCHEURLE. Invariant C^j -functions and center manifold reduction. In H. W. Broer, S. van Gils, I. Hoveijn & F. Takens, editors, *Nonlinear Dynamical Systems and Chaos*. Birkhäuser, 1996.
- [224] B. SANDSTEDE. *Verzweigungstheorie homokliner Verdopplungen*. PhD thesis, Univ. Stuttgart, 1993.
- [225] B. SANDSTEDE & A. SCHEEL. Forced symmetry breaking of homoclinic cycles. *Nonlinearity*, 8, 333-365, 1994.
- [226] B. SANDSTEDE, A. SCHEEL & C. WULFF. Bifurcations and dynamics of spiral waves. *J. Nonl. Sc.*, 9(4), 439-478, 1999.
- [227] B. SANDSTEDE, A. SCHEEL & C. WULFF. Dynamical behaviour of patterns with Euclidean symmetry. In *Pattern Formation in Continuous and Coupled Systems*, 249-264. IMA, 1999.
- [228] G. SARTORI. Geometric invariant theory: a model-independant approach to spontaneous symmetry-breaking and/or supersymmetry-breaking. *Rivista del Nuovo Cimento*, 14(11), 1-120, 1991.
- [229] D. H. SATTINGER. *Topics in stability and bifurcation theory*, Lecture Notes in Mathematics 309. Springer Verlag, 1972.
- [230] D. H. SATTINGER. Bifurcations from rotationally invariant states. *J. Math. Phys.*, 19(8), 1720-1731, august 1978.
- [231] D. H. SATTINGER. *Group Theoretic Methods in Bifurcation Theory*, Lecture Notes in Mathematics 762. Springer Verlag, 1979.
- [232] D. H. SATTINGER. *Branching in the Presence of Symmetry*, CBMS-NSF Conference Notes 40. Plenum, 1983.
- [233] D. H. SATTINGER & O. WEAVER. *Lie Groups and Algebras with Applications to Physics, Geometry and Mechanics*, Appl. Math. Sciences 61. Springer Verlag, 1986.
- [234] D. G. SCHAEFFER. General introduction to steady-state bifurcation. In D. Rand & L.-S. Young, editors, *Dynamical systems and turbulence, Warwick 1980*, Lect. Notes in Math. 898. Springer, 1981.
- [235] A. SCHEEL. Bifurcation to spiral waves in reaction-diffusion systems. *SIAM J. Math. Anal.*, 29(6), 1399-1418, 1998.

- [236] A. SCHEEL & P. CHOSSAT. Bifurcation d'orbites periodiques a partir d'un cycle homocline symetrique. *C. R. Acad. Sci. Paris, Ser. I*, 314(1), 49-54, 1992.
- [237] G. SCHNEIDER. Global existence via Ginzburg-Landau formalism and pseudo-orbits of Ginzburg-Landau approximations. *Comm. Math. Phys.*, 164, 157-179, 1994.
- [238] G. SCHWARZ. Smooth functions invariant under the action of a compact Lie group. *Topology*, 14, 63-68, 1975.
- [239] G. SCHWARZ. Lifting smooth homotopies. *IHES*, 51, 37-135, 1980.
- [240] J.-P. SERRE. *Représentations Linéaires des Groupes Finis*. Herrmann, 1978.
- [241] J. SERRIN. A symmetry problem in potential theory. *Arch. Rat. Mech. Anal.*, 43, 304-318, 1971.
- [242] M. SEVRYUK. *Reversible Systems*, Lect. Notes in Math. 1211. Springer, 1986.
- [243] L. SHILNIKOV. On the generation of a periodic motion from a trajectory which leaves and reenters a saddle-saddle-strate of equilibrium. *Sov. Math. Dokl.*, 7, 1155-1158, 1966.
- [244] B. SIMON. *Representations of finite and compact groups*, Graduate Studies in Mathematics 10. AMS, 1996.
- [245] J. SMOLLER. *Shock Waves and Reaction-Diffusion Equations*, Grundle. d. math. Wissenschaften 258. Springer, New York, 1983.
- [246] J. SMOLLER & A. G. WASSERMAN. Symmetry-breaking for positive solutions of semilinear elliptic equations. *Arch. Rat. Mech. Anal.*, 95, 217-225, 1986.
- [247] J. SMOLLER & A. G. WASSERMAN. Bifurcation and symmetry breaking. *Invent. Math.*, 100, 63-95, 1990.
- [248] J. SMOLLER & A. G. WASSERMAN. Symmetry, degeneracy, and uniqueness in semilinear elliptic equations, infinitesimal symmetry breaking. *J. Funct. Anal.*, 89, 364-409, 1990.
- [249] T. A. SPRINGER. *Invariant Theory*, Lecture Notes in Mathematics 585. Springer Verlag, 1977.
- [250] S. STERNBERG. On the structure of local homeomorphism of Euclidean n -space, II. *Amer. J. Math*, 80, 623-631, 1958.
- [251] E. STONE & D. ARMBRUSTER. Noise and $O(1)$ amplitude effects on heteroclinic cycles. *Preprint*, 1998.
- [252] E. STONE & P. HOLMES. Noise induced intermittency in a model of a turbulent boundary layer. *Physica D*, 37, 20-32, 1989.
- [253] P. STORK & B. WERNER. Symmetry adapted block diagonalisation in equivariant steady state bifurcation problems and its numerical application. *Adv. in Math.*, 20(4), 455-487, 1991.
- [254] M. STRUWE. *Variational Methods*, Ergebnisse der Mathematik und ihrer Grenzgebiete 34. Springer Verlag, 1990.

- [255] B. STURMFELS. *Algorithms in Invariant Theory*, Texts and Monographs in Symbolic Computation 1. Springer Verlag, 1993.
- [256] B. STURMFELS. *Gröbner bases and convex polytopes*, University Lecture Series 8. Am. Math. Soc., 1995.
- [257] J. SWIFT. Hopf bifurcation with the symmetry of the square. *Nonlinearity*, 1(2), 333-377, 1988.
- [258] J. SWIFT & E. BARANY. Chaos in the hopf bifurcation with tetrahedral symmetry: Convection in a rotating fluid with low Prandtl number. *Eur. J. Mech., B/Fluids*, 10, 99-104, 1991.
- [259] J. SWIFT & P. HOHENBERG. Hydrodynamic fluctuations at the convective instability. *Phys. Rev. A*, 15, 319-328, 1977.
- [260] J. SYLVESTER. Proof of the hitherto undemonstrated fundamental theorem of invariants. In *Collected Math. Papers*. Chelsea, 1973.
- [261] TAYLOR. *Partial Differential Equations, Vol. I*, Appl. Math. Sc. 115. Springer, New York, 1996.
- [262] TAYLOR. *Partial Differential Equations, Vol. II*, Appl. Math. Sc. 116. Springer, New York, 1996.
- [263] TAYLOR. *Partial Differential Equations, Vol. III*, Appl. Math. Sc. 117. Springer, New York, 1996.
- [264] G. I. TAYLOR. Stability of a viscous liquid contained between two rotating cylinders. *Phil. Trans. Roy. Soc. London A*, 223, 289-343, 1923.
- [265] R. TEMAN. *Navier-Stokes Equation*, Studies in Mathematics and its Applications 2. North-Holland, Amsterdam, 1979.
- [266] R. TEMAN. *Infinite-dimensional dynamical systems in mechanics and physics*, Applied Mathematical Sciences 68. Springer-Verlag, New York, 1988.
- [267] T. TOM DIECK. *Transformation Groups*, Studies in Mathematics 8. de Gruyter, 1987.
- [268] H. TROGER & A. STEINDL. *Nonlinear stability and bifurcation theory. An introduction for engineers and applied scientists*. Springer-Verlag, Amsterdam, 1991.
- [269] M. VAINBERG & V. TRENIGIN. The method of Lyapunov and Schmidt in the theory of nonlinear equations and their further development. *Russ. Math. Surv.*, 17(2), 1, 1962.
- [270] B. L. VAN DER WAERDEN. *Moderne Algebra I*, Grundle. d. Math. Wiss. 33. Springer, 1950.
- [271] A. VANDERBAUWHEDE. Symmetry and bifurcation near families of solutions. *J. Diff. Equat.*, 36, 173-178, 1980.
- [272] A. VANDERBAUWHEDE. *Local Bifurcation and Symmetry*, Research Notes in Mathematics 75. Pitman, 1982.
- [273] A. VANDERBAUWHEDE. Symmetry breaking at positive solutions. *Zeitschr. Ang. Math. Phys.*, 38, 315-326, 1987.
- [274] A. VANDERBAUWHEDE. Centre manifolds, normal forms and elementary bifurcations. *Dynamics Reported*, 2, 89-169, 1989.

- [275] A. VANDERBAUWHEDE & B. FIEDLER. Homoclinic period blow-up in reversible and conservative systems. *Zeitschr. Ang. Math. Phys.*, 43, 292-318, 1991.
- [276] A. VANDERBAUWHEDE & G. IOOSS. Center manifold theory in infinite dimensions. *Dynamics Reported, N.S.*, 1, 125-163, 1992.
- [277] B. WERNER. The numerical analysis of bifurcation problems with symmetries based on bordered jacobians. In G. Allgower, K. Georg & Miranda, editors, *Exploiting Symmetry in Applied and Numerical Analysis*, Lectures in Applied Mathematics 29, 443-457, 1993.
- [278] B. WERNER & A. SPENCE. The computation of symmetry breaking bifurcation points. *SIAM J. Num. Anal.*, 21, 388-399, 1984.
- [279] A. T. WINFREE. Scroll-shaped waves of chemical activity in three dimensions. *Science*, 181, 937-939, 1973.
- [280] A. T. WINFREE. *The Geometry of Biological Time*, Biomathematics 8. Springer Verlag, 1980.
- [281] C. WULFF. *Theory of meandering and drifting spiral waves in reaction-diffusion systems*. PhD thesis, Freie Universität Berlin, 1996.
- [282] C. WULFF, J. S. W. LAMB & I. MELBOURNE. Bifurcation from relative periodic solutions. *Preprint*, 1999.
- [283] K. YOSIDA. *Functional Analysis*, Grundle. d. math. Wissenschaften 123. Springer Verlag, 1978.
- [284] E. ZEIDLER. *Applied Functional Analysis*, Appl. Math. Sciences 109. Springer Verlag, 1995.
- [285] R. TEMAM. *Infinite-dimensional dynamical systems: attractors and physics*, Applied Mathematical Sciences 68. Springer-Verlag, New York, 1997.
- [286] T. TOM DIECK. *Transformation Groups*, Stud. Adv. Math. 8. Academic Press, 1987.
- [287] H. POINCARÉ. *Science et méthode*. Flammarion, 1908.
- [288] Introduction for engineers and applied scientists. Springer-Verlag, Almaty, 1998.
- [289] T. A. SPRINGER. *Invariant Theory*, Lecture Notes in Math. 912. Springer, 1982.
- [290] M. VAINBERG & V. TRENOGIN. The method of Lyapunov and Schmidt in the theory of nonlinear equations and their further developments. *Math. Surv.*, 17(2), 1, 1982, 139-158, 08. Amer. J. Math. 80, 623-631, 1958.
- [291] B. VANDERBAUWHEDE. *Algebraic Methods in Mathematical Physics*. Springer, 1990.
- [292] B. VANDERBAUWHEDE. *Symmetry and Bifurcation*. Springer, 1995.
- [293] A. VANDERBAUWHEDE. *Symmetry breaking in positive solutions of elliptic equations*. *J. Diff. Equ.*, 1989, 178-198.
- [294] A. VANDERBAUWHEDE. *Center manifold theory in infinite dimensions*. *Dynamics Reported*, 2, 89-169, 1992.