

Publications

- 107. Cassani, Daniele; Ruf, Bernhard; Tarsi, Cristina On the capacity approach to non-attainability of Hardy's inequality in \mathbb{R}^N *Discrete Contin. Dyn. Syst. Ser. S* 12 (2019), no. 2, 245–250.
- 106. Calanchi, Marta; Massa, Eugenio; Ruf, Bernhard Weighted Trudinger-Moser inequalities and associated Liouville type equations. *Proc. Amer. Math. Soc.* 146 (2018), no. 12, 5243–5256.
- 105. Cassani, D.; Ruf, B.; Tarsi, C. Equivalent and attained version of Hardy's inequality in \mathbb{R}^n . *J. Funct. Anal.* 275 (2018), no. 12, 3303–3324.
- 104. Parini, Enea; Ruf, Bernhard On the Moser-Trudinger inequality in fractional Sobolev-Slobodeckij spaces. *Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl.* 29 (2018), no. 2, 315–319.
- 103. Marta Calanchi; Bernhard Ruf; Federica Sani; *Elliptic Equations in Dimension 2 with Double Exponential Nonlinearities*, NoDEA Nonlinear Differential Equations Appl. 24 (2017), no. 3, Art. 29, 18 pp.
- 102. Parini, Enea; Ruf, Bernhard; *Moser-Trudinger Inequality in Fractional Sobolev-Slobodeckij Spaces*, Journal d'Analyse Mathématique, to appear
- 101. Furioli, Giulia; Tatsuki Kawakami; Bernhard Ruf; Elide Terraneo; *Asymptotic behavior and decay estimates of the solutions for a nonlinear parabolic equation with exponential nonlinearity*, J. Differential Equations, 262 (2017), no. 1, 145–180.
- 100. do Ó, João Marcos; Ruf, Bernhard; Ubilla, Pedro, *On supercritical Sobolev type inequalities and related elliptic equations*. Calc. Var. Partial Differential Equations 55 (2016), no. 4,
- 99. Ding, Y., Ruf, B., *On multiplicity of semi-classical solutions to a nonlinear Maxwell-Dirac system*, J. Differential Equations 260 (2016), no. 7, 5565–5588
- 98. Parini, Enea; Ruf, Bernhard; Tarsi, Cristina, *Higher-order functional inequalities related to the clamped 1-biharmonic operator*, Annali di Matematica Pura ed Applicata 194, no. 6 (2015), 1835-1858
- 97. Ioku, Norisuke, Ruf, Bernhard, Terraneo, Elide, *Existence, Non-existence, and Uniqueness for a Heat Equation with Exponential Nonlinearity in \mathbb{R}^2* . Math. Physics, Analysis and Geometry (2015)
- 96. Calanchi, Marta; Ruf, Bernhard, *Weighted Trudinger-Moser inequalities and applications*, Bulletin South Ural State U. Ser. Math. Modelling, Programming & Computer Software (Bulletin SUSU MMCS), 8 (2015), no. 3, 42-55
- 95. Calanchi, Marta; Ruf, Bernhard, *Trudinger-Moser type inequalities with logarithmic weights in dimension N* , Nonlinear Anal. 121 (2015), 403–411
- 94. Calanchi, Marta; Ruf, Bernhard, *On Trudinger-Moser type inequalities with logarithmic weights*. J. Differential Equations 258 (2015), no. 6, 1967–1989.

- 93. Passalacqua, Tommaso; Ruf, Bernhard, *Hardy-Sobolev inequalities for the biharmonic operator with remainder terms*. J. Fixed Point Theory Appl. 15 (2014), no. 2, 405–431.
- 92. Parini, Enea; Ruf, Bernhard; Tarsi, Cristina, *Limiting Sobolev inequalities and the 1-biharmonic operator*. Adv. Nonlinear Anal. 3 (2014), suppl. 1, 19–36.
- 91. Parini, Enea; Ruf, Bernhard; Tarsi, Cristina, *The eigenvalue problem for the 1-biharmonic operator*. Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) 13 (2014), no. 2, 307–332.
- 90. Ruf, Bernhard; Srikanth, P. N. *Concentration on Hopf-fibres for singularly perturbed elliptic equations*. J. Funct. Anal. 267 (2014), no. 7, 2353–2370.
- 89. Li, Yuanyuan; Ruf, Bernhard; Guo, Qianqiao; Niu, Pengcheng, *Positive solutions for singular elliptic equations with mixed Dirichlet-Neumann boundary conditions*. Math. Nachr. 287 (2014), no. 4, 374–397.
- 88. Ruf, Bernhard; Srikanth, P. N. *Hopf fibration and singularly perturbed elliptic equations*. Discrete Contin. Dyn. Syst. Ser. S, 7 (2014), no. 4, 823–838.
- 87. Cassani, D.; Ruf, B., Tarsi, C., *Group invariance and Pohozaev identity in Moser-type inequalities*, Commun. Contemp. Math. 15 (2013), no. 2
- 86. Li, Yuanyuan; Ruf, Bernhard; Guo, Qianqiao; Niu, Pengcheng, *Quasilinear elliptic problems with combined critical Sobolev-Hardy terms*, Ann. Mat. Pura Appl. (4) 192 (2013), no. 1, 93–113
- 85. Ding, Yanheng; Ruf, Bernhard, *Existence and concentration of semiclassical solutions for Dirac equations with critical nonlinearities*. SIAM J. Math. Anal. 44 (2012), no. 6, 3755–3785
- 84. Cassani, D., Ruf, B., Tarsi, C., *A Moser type inequality in Zygmund spaces without boundary conditions*, Contemporary Mathematics, 2013; Volume: 595, 121-133
- 83. Ruf, B., Sani, F., *On a Adams type inequality in R^{2m}* , Trans. Amer. Math. Soc. 365 (2013), no. 2, 645–670
- 82. Cassani, D., Ruf, B., Tarsi, C., *Optimal Sobolev Type Inequalities in Lorentz Spaces*, Potential Analysis 39 (2013), no. 3, 265-285
- 81. Ding, Y.H., Lee, C., Ruf, B., *Semi-classical states of a Dirac equation*, Proc. Roy. Soc. Edinburgh Sect. A 143 (2013), no. 4, 765–790
- 80. del Pino, M., Musso, M., Ruf, B., *Beyond the Trudinger-Moser supremum*, Calc. Var. Partial Differential Equations 44 (2012), no. 3-4, 543–576.
- 79. Agudelo, Oscar; Ruf, Bernhard; Vélez, Carlos, *On a nonlinear elliptic system with symmetric coupling*. Nonlinear Anal. 75 (2012), no. 11, 4315–4324
- 78. Ruf, Bernhard, *On the Fučík spectrum for equations with symmetries*. Nonlinear elliptic partial differential equations, 15–34, Contemp. Math., 540, Amer. Math. Soc., Providence, RI, (2011)
- 77. de Figueiredo, D.G., do O', J.M., Ruf, B., *Elliptic equations and systems with critical Trudinger-Moser inequalities*, Discrete Contin. Dyn. Syst. 30 (2011), no. 2, 455–476.
- 76. Torre, F., Ruf, B., *Multiplicity of solutions for a superlinear p -Laplacian equation*, Nonlinear Analysis TMA, 73 (2010), 2132-2147.

- 75. Chabrowski, J., Peral, I., Ruf, B., *On an eigenvalue problem involving the Hardy potential*, Commun. Contemp. Math. 12 (2010), no. 6, 953–975.
- 74. Calanchi, M., Ruf, B., *Radial and non radial solutions for Hardy-Henon type elliptic systems*, Calc. Var. 38 (2010), 111-133
- 73. Cassani, D., Ruf, B., Tarsi, C., *Best constants in a borderline case of second-order Moser type inequalities*, Ann. Institut H. Poincaré – Analyse Nonlinéaire, 27 (2010), 73-93
- 72. Del Pino, M., Musso, M., Ruf, B., *New solutions for Trudinger–Moser critical equations in R^2* , J. Functional Analysis 258 (2010) 421–457
- 71. Cassani, D., Ruf, B., Tarsi, C., *Best constants for Trudinger-Moser type inequalities in Zygmund spaces*, Matematica Contemporanea, 36 (2009), 79-90
- 70. Massa, E., Ruf, B., *On the Fucik Spectrum for the Laplacian on a Torus*, J. Funct. Anal. 256 (2009), no. 5, 1432–1452.
- 69. Lorca, S., Ruf, B., Ubilla, P., *A priori bounds for superlinear problems involving the N -Laplacian*, J. Differential Equations 246 (2009), no. 5, 2039–2054
- 68. De Figueiredo, D.G., do Ó, J.M., Ruf, B., *Non variational elliptic systems in dimension two: a priori bounds and existence of positive solutions*, J. Fixed Point Theory Appl. 4 (2008), no. 1, 77–96.
- 67. Ruf, B., Tarsi, C., *On Trudinger-Moser type inequalities involving Sobolev-Lorentz spaces*, Ann. Mat. Pura Appl. (4) 188 (2009), no. 3, 369–39766.
- Ruf, B., *Superlinear Elliptic Equations and Systems*, Handbook of Differential Equations, “Stationary Partial Differential Equations” vol. 5, ed. M. Chipot, Elsevier, 2008, p. 213-276
- 65. Ruf, B., Srikanth, P.N., *Singularly perturbed elliptic equations with solutions concentrating on 1-dimensional orbits*, J. Eur. Math. Soc. (JEMS) 12 (2010), no. 2, 413–427.
- 64. Ruf, B., Ubilla, P., *On a Liouville-type equation with sign-changing weight*, Proc. Roy. Soc. Edinburgh Sect. A 139 (2009), no. 1, 183–192.63. Ding, Y., Ruf, B., *Solutions of a nonlinear Dirac equation in external fields*, Archive Rational Mech. Analysis, 190 (2008), 57-82
- 62. Massa, E., Ruf, B., *A Global Characterization of the Fucik Spectrum for a System of Ordinary Differential Equations*, J. Diff. Equ., 234 (2007), no. 1, 311-336
- 61. Li, Yuxiang, Ruf, B., *A sharp Trudinger-Moser type inequality for unbounded domains in R^n* , Indiana Univ. Math. J. 57, no. 1 (2008), 451-480
- 60. Chabrowski, J., Ruf, B., *On the critical Neumann problem with perturbations of lower order*, Colloq. Math. 108 (2007), 225-246
- 59. De Figueiredo, D.G., do Ó, J.M., Ruf, B., *Semilinear elliptic systems with exponential nonlinearities in two dimensions*, (Volume in honor of Felix Browder), Advanced Nonlinear Studies 6, (2006), 199-213
- 58. Ruf, B., *On elliptic equations and systems with critical growth in R^2* , Tr. Mat. Inst. Steklova 255 (2006), 234-243, Funkt. Prostran., Teor. Priblizh., Nelinein. Anal.
- 57. Ruf, B., *Lorentz spaces and Nonlinear Elliptic systems*, Progr. Nonlin. Diff. Equ. 66 (2005), 471-489

- 56. Massa, Eugenio, and Ruf, B., *On the Fucik spectrum for elliptic systems*, Top. Meth. Nonlin. Analysis, 27, (2006), 195-228
- 55. De Figueiredo, D.G., Ruf, B., *On elliptic systems with nonlinearities of arbitrary growth*, Mediterranean J. Math. 1, (2004), 417-431
- 54. De Figueiredo, D.G., do Ó, J.M., Ruf, B., *An Orlicz space approach to superlinear elliptic systems*, J. Funct. Analysis, 224 (2005), 471-496
- 53. Zhang, Zh., Calanchi, M., Ruf, B., *Elliptic equations in R^2 with one-sided exponential growth*, Comm. Contemp. Math., 6 (2004), 1-25
- 52. Do Ó, J.M., Ruf, B., *On a Schrödinger equation with periodic potential and critical growth in R^2* , NoDEA, 13 (2006) 167–192
- 51. Ruf, B., *A sharp Trudinger-Moser type inequality for unbounded domains in R^2* , J. Funct. Analysis, 219 (2004), 340-367
- 50. De Figueiredo, D.G., do Ó, J.M., Ruf, B., *Critical and subcritical elliptic systems in dimension two*, Indiana University Math. J. 53 (2004), 1037-1054
- 49. Chabrowski, J., Ruf, B., *On the critical Neumann problem with weight in exterior domains*, Nonlinear Analysis TMA, 54 (2003), pp. 143-163
- 48. Clapp, M., Kavian, O., Ruf, B., *Multiple solutions of nonhomogeneous elliptic equations with critical nonlinearity on symmetric domains*, Comm. Contemp. Math. 2, (2003), 147-169
- 47. Calanchi, M., Ruf, B., *Hilbert type numbers for polynomial ODE's*, Progr. Nonlin. Diff. Equ. 54 (2003), 53 - 61
- 46. Ruf, B., Terraneo, E., *The Cauchy problem for a semilinear heat equation with singular initial data*, Progress in Nonlinear Diff. Equ., Vol. 50, (2002)
- 45. Calanchi, M., Ruf, B., *Elliptic equations with one-sided critical growth*, Electron. J. Diff. Eqns., Vol. 2002 (2002), No. 89, pp. 1-21
- 44. de Figueiredo, D.G., Do Ó, J.M., Ruf, B., *On an inequality by N. Trudinger and J. Moser and a related elliptic equation*, Comm. Pure Appl. Math. 55 (2002), 1-18
- 43. Ruf, B., *On a result by Carleson-Chang concerning the Trudinger-Moser inequality*, Nonlinear Analysis TMA, 47 (2001), 6041-6051
- 42. Calanchi, M., Ruf, B., *On the number of closed solutions for polynomial ODE's and a special case of Hilbert's 16th problem*, Advances in Diff. Equ. 7 (2002), 197--216
- 41. Ruf, B., Srikanth, P.N., *The Lorentz-Dirac equation II*, Reviews in Math. Physics, 12 (2000), 1137-1157
- 40. Ruf, B., Srikanth, P.N., *The Lorentz-Dirac equation I*, Reviews in Math. Physics, 12 (2000), 657-686
- 39. Ruf, B., *Bounds on the number of solutions of elliptic boundary value problems with polynomial nonlinearities*, J. Diff. Equ. 151, 1999, p. 111-133
- 38. Gazzola, F., Ruf, B., *Lower order perturbations of critical growth nonlinearities in semilinear elliptic PDE's*, Adv. in Diff. Equ. 2, 1997, p. 555-572

- 37. Ruf, B., *Singularity Theory and Bifurcation Phenomena in Differential Equations*, Top. Nonlinear Anal., Birkhäuser, 104 p., 1997
- 36. Ruf, B., *Borderline problems in the calculus of variations*, Rend. Sem. Mat. Fis., 64, 1994
- 35. de Figueiredo, G., Ruf, B., *On the existence and non-existence of solutions for elliptic equations with critical growth in R^2* , Comm. Pure Appl. Math., 48, 1995
- 34. Arioli, G., Ruf, B., *Periodic solutions for a system of forced, nonlinearly coupled oscillators, with applications to electrical circuits*, Dynamic Systems Appl., 4, 1995
- 33. deFigueiredo, D.G., Miyagaki, O.H., Ruf, B., *Elliptic equations in R^2 with nonlinearities in the critical growth range*, Calc. Var. and PDE, 3, 1995
- 32. Ruf, B., *Higher singularities in Banach space and forced secondary bifurcation*, SIAM J. Math. Anal. 9, 1995
- 31. Ruf, B., Srikanth, P.N., *On periodic motions of lattices of Toda type via critical point theory*, Arch. Rational Mech. Anal. 126, 1994
- 30. Ruf, B., *Large perturbations of Toda lattices*, Proc. First World Congress Nonlin. Analysis, 1993
- 29. Ruf, B., *Perturbation of symmetry and generalized mountain pass theorems*, Proc. Conf. Var. Methods, Erice, 1993
- 28. deFigueiredo, D.J., Ruf, B., *On the periodic Fucik spectrum and a superlinear Sturm-Liouville equation*, Proc. Royal Soc. Edinb. 123A, 1993
- 27. Ruf, B., *Forced secondary bifurcation in a nonlinear elliptic equation*, Diff. Int. Equ. 5, 1992
- 26. Ruf, B., *On a surjectivity result for a superlinear Sturm-Liouville equation*, Proc. Equadiff, Barcelona, 1991
- 25. Ruf, B., *Butterflies in Banach space and forced secondary bifurcation*, Proc. Conf. Theory Appl. Diff. Eqs, Edinburg, Texas, 1991
- 24. Ruf, B., *Remarks on a superlinear Sturm-Liouville equation*, Proc. Conf. Elliptic and Parabolic Equ., Pont-a-Mousson, 1991
- 23. deFigueiredo, D.J., Ruf, B., *On a superlinear Sturm-Liouville equation and a related bouncing problem*, Journ. reine angew. Math. 441, 1991
- 22. Kappeler, Th., Ruf, B., *On the nodal line of the second eigenfunction of an inhomogeneous membrane*, Nonlinear Analysis TMA 15, 1990, 427-436
- 21. Ruf, B., *On the nodal line of eigenfunctions*, Proceedings Equadiff 7, Prag, 1989
- 20. Ruf, B., *On the number of solutions of superlinear boundary value problems*, "Differential equations and applications", ed. A.R. Aftabizadeh, Ohio Univ. Press, 1989
- 19. Ruf, B., *Singularity theory and the geometry of some nonlinear elliptic equation*, Ann. Sc. Norm. Sup. Pisa, Cl. Scienze, ser. 4, 17, 1990
- 18. Ruf, B., *Singularity theory and the bifurcation structure of a nonlinear elliptic equation*, "Differential Equations: Stability and Control", ed. S. Elaydi, Marcel Dekker, 1990
- 17. Kappeler, Th., Ruf, B., *On the nodal line of the second eigenfunction of elliptic operators in two dimensions*, Journ. Reine Angew. Math., 1989

- 16. Ruf, B., *Multiplicity and eigenvalue intersecting nonlinearities*, ZAMP, 1989
- 15. Ruf, B., *Ueber die Lösungsstruktur von nichtlinearen elliptischen Gleichungen*, Habilitationsschrift, 1987, Universität zu Köln
- 14. Ruf, B., *Multiplicity results for nonlinear elliptic equations*, "Nonlinear Analysis and Function Spaces", Teubner Texte, 1986, Leipzig
- 13. Ruf, B., Srikanth, P.N., *Multiplicity results for superlinear elliptic problems with partial interference with the spectrum*, Math. Analysis and Appl., 1986
- 12. Ruf, B., *Multiplicity results for superlinear elliptic equations*, in "Nonlinear Analysis and its applications", NATO ASI series C, Vol. 173, 1986
- 11. Ruf, B., Srikanth, P.N., *Multiplicity results for ODE's with nonlinearities crossing all but a finite number of eigenvalues*, Nonlinear Analysis TMA, 1986
- 10. Ruf, B., Solimini, S., *On a class of superlinear Sturm-Liouville problem with arbitrarily many solutions*, SIAM J. Math. Analysis, 1986
- 9. Ruf, B., *A nonlinear Fredholm alternative for second order ordinary differential equations*, Math. Nachrichten, 1986
- 8. Berestycki, H., Lasry, J.M., Mancini, G., Ruf, B., *Periodic Hamiltonian trajectories on starshaped manifolds*, Proc. Symposia in Pure Mathematics, Vol. 44, 1985
- 7. Ruf, B., *Remarks and generalizations related to a recent multiplicity result of Lazer and McKenna*, Nonlinear Analysis TMA, 1985
- 6. H. Berestycki, H., Lasry, J.M., Mancini, G., Ruf, B., *Existence of multiple periodic orbits on starshaped Hamiltonian surfaces*, Comm. Pure Appl. Math., 253-289, 1985
- 5. Berestycki, H., Lasry, J.M., Mancini, G., Ruf, B., *Sur le nombre d'orbites periodiques des equations d'Hamilton sur une surfaces d'energie etoilée*, C.R. Acad.Sc., Paris, t. 296, ser. I-13, 1983
- 4. Ruf, B., *Nonlinear eigenvalues and bifurcation*, Boll. U.M.I., 18-A, 1981
- 3. Ruf, B., *On a nonlinear elliptic problem with jumping nonlinearities*, Ann. Mat. Pura ed Appl. IV, 1980
- 2. Ruf, B., *Eine nichtlineare Fredholm Alternative*, Dissertation, Zürich, 1980
- 1. Hess, P., Ruf, B., *On a superlinear elliptic boundary value problem*, Math. Z., 1978