Wien, den 6. April 2024

FH-Prof. Priv.-Doz. Mag. Dr. Friedrich Kupka
Dep. Appl. Math. & Physics
Univ. of Applied Sciences Technikum Wien
Höchstädtplatz 6
A-1200 Wien
Austria

Publikationsliste

1.1 Diplom- und Doktorarbeiten, Habilitationsschrift

1. Kupka, F., *Modellatmosphären und synthetische Spektren am Beispiel von α Circini*, Diplomarbeit, Institut für Astronomie, Univ. Wien (1994) (159 Seiten, auf Deutsch)

2. Kupka, F., *Entwicklung eines hybriden Particle-Mesh Ewald Verfahrens*, Diplomarbeit, Institut für Experimentalphysik, Univ. Wien (1996) (122 Seiten, auf Deutsch)

3. Kupka, F., *Sparse Grid Spectral Methods for the Numerical Solution of Partial Differential Equations with Periodic Boundary Conditions*, deutschsprachiger Titel: *Spektralmethoden auf dünnen Gittern zur numerischen Lösung partieller Differentialgleichungen mit periodischen Randbedingungen*, Doktorarbeit, Institut für Mathematik, Univ. Wien (1997) (165 Seiten, größtenteils auf Englisch)

4. Kupka, F., *Konvektion und konvektives Mischen in der stellaren Astrophysik*, englischsprachiger Titel: *Convection and Convective Mixing in Stellar Astrophysics*, Habilitationsschrift, Fakultät für Physik, TU München (2007) (344 Seiten, größtenteils auf Englisch)

1.2 Co-Editor von Tagungsberichten und Monographien

1.2.1 Erschienen

1. Adelman, S.J., Kupka, F., Weiss, W.W., *M.A.S.S. - Model Atmospheres and Spectrum Synthesis*, ASP Conf. Ser. Vol. 108, San Francisco (1996) (ca. 320 Seiten)

2. Kupka, F., Hillebrandt, W., *Proceedings of the Workshop on "Interdisciplinary Aspects of Turbulence"*, Proceedings MPA/P15, Garching (2005) (ca. 188 Seiten)

3. Kupka, F., Roxburgh, I.W., Chan, K.L., *Proceedings of the IAU Symposium 239 "Convection in Astrophysics"*, Cambridge University Press, Cambridge (2007) (ca. 540 Seiten)

4. Hillebrandt, W., Kupka, F., *Interdisciplinary Aspects of Turbulence*, Lecture Notes in Physics Vol. 756, Springer Verlag, Berlin (2009) (ca. 340 Seiten, ISBN: 978-3-540-78960-4)

1.3 Publikationen in referierten Journalen

1.3.1 Erschienen

1. Muthsam, H.J., Göb, W., Kupka, F., Liebich, W., Zöchling, J., *A numerical study of compressible convection*, Astron. Astrophys. 293, 127-141 (1995)

2. Piskunov, N.E., Kupka, F., Ryabchikova, T.A., Weiss, W.W., Jeffery, C.S., *VALD: The Vienna Atomic Line Data Base*, Astron. Astrophys. Suppl. 112, 525-535 (1995)

3. Kupka, F. Ryabchikova, T.A., Weiss, W.W., Kuschnig, R., Rogl, J., Mathys, G., *Abundance Analysis of roAp stars. I. alpha Circini*, Astron. Astrophys. 308, 886-894 (1996)

4. Gelbmann, M., Kupka, F., Weiss, W.W., Mathys, G., *Abundance Analysis of roAp stars.* II. HD 203932, Astron. Astrophys. 319, 630-636 (1997) (and Astron. Astrophys. 322, 1026 (1997)

5. Smalley, B., Kupka, F., *The role of convection on the uvby colours of A, F, and G stars*, Astron. Astrophys. 328, 349-360 (1997)

6. Audard, N., Kupka, F., Morel, P., Provost, J., Weiss, W.W., *The acoustic cut-off frequency of roAp stars*, Astron. Astrophys. 335, 954-958 (1998)

7. Heiter, U., Kupka, F., Paunzen, E., Weiss, W.W., Gelbmann, M., *Abundance analysis of the λ Bootis stars HD 192640, HD 183324 and HD 84123*, Astron. Astrophys. 335, 1009-1017 (1998)

8. Gardiner, R.B., Kupka, F., Smalley, B., *Testing convection theories using Balmer line profiles of A, F and G stars*, Astron. Astrophys. 347, 876-890 (1999)

9. Kupka, F., *Turbulent convection: comparing the moment equations to numerical simulations*, Astrophys. Journal Letters 526, L45-L48 (1999)

10. Kupka, F., Piskunov, N., Ryabchikova, T.A., Stempels H.C., Weiss, W.W., *VALD-2: Progress of the Vienna Atomic Line Data Base*, Astron. Astrophys. Suppl. 138, 119-133 (1999)

11. Muthsam, H.J., Göb, W., Kupka, F., Liebich, W., *Interacting Convection Zones*, New Astronomy 4, 405-417 (1999)

12. Ryabchikova, T., Piskunov, N., Savanov, I., Kupka, F., Malanushenko, V., Eu III *identification and* Eu *abundance in cool CP stars*, Astron. Astrophys. 343, 229-236 (1999)

13. Ryabchikova, T.A., Piskunov, N.E., Stempels, H.C., Kupka, F., Weiss, W.W., *The Vienna Atomic Line Data Base - a Status Report* in Proc. of the 6th Int. Coll. on Atomic Spectra and Oscillator Strengths, Victoria BC, Canada, 1998, Phys. Scripta T83, 162-173 (1999)

14. Cowley, C.R., Ryabchikova, T., Kupka, F., Bord, D.J., Mathys, G., Bidelman, W.P., *Abundances in Przybylski's star*, Mon. Not. Roy. Astron. Soc. 317, 299-309 (2000)

15. Gelbmann, M.J., Ryabchikova, T., Weiss, W.W., Piskunov, N.E., Kupka, F., Mathys, G., *Abundance analysis of roAp stars V: HD 166473*, Astron. Astrophys. 356, 200-208 (2000)

16. Montalbán, J., Kupka, F., D'Antona, F., Schmidt, W., *Convection in the atmospheres and envelopes of turnoff and giant branch stars of globular clusters*, Astron. Astrophys. 370, 982-990 (2001)

17. Piskunov, N., Kupka, F., *Model atmospheres with individualized abundances*, Astrophys. Jour. 547, 1040-1056 (2001)

18. D'Antona, F., Montalbán, J., Kupka, F., Heiter, U., *The Böhm-Vitense gap: the role of turbulent convection*, Astrophys. Jour. 564, L93-L96 (2002)

19. Heiter, U., Kupka, F., van 't Veer-Menneret, C., Barban, C., Weiss, W.W., Goupil, M.-J., Schmidt W., Katz, D., Garrido, R., *New grids of ATLAS9 atmospheres I: Influence of convection treatments on model structure and on observable quantities*, Astron. Astrophys. 392, 619-636 (2002)

20. Kochukhov, O., Landstreet, J.D., Ryabchikova, T., Weiss, W.W., Kupka, F., *Discovery of rapid radial velocity variations in the roAp star 10 Aql and possible pulsations of β CrB*, Mon. Not. Roy. Astron. Soc. 337, L1-L5 (2002)

21. Kupka, F., Montgomery, M.H., *A-star envelopes: a test of local and non-local models of convection*, Mon. Not. Roy. Astron. Soc. 330, L6-L10 (2002)

22. Smalley, B., Gardiner, R.B., Kupka, F., Bessell, M.S., *On the anomaly of Balmer line profiles of A type stars. Fundamental binary systems.*, Astron. Astrophys. 395, 601-609 (2002)

23. Barban, C., Goupil, M.-J., van 't Veer-Menneret, C., Garrido, R., Kupka, F., Heiter, U., *New grids of ATLAS9 atmospheres II: Limb-darkening coefficients for the Strömgren photometric system for A-F stars*, Astron. Astrophys. 405, 1095-1105 (2003)

24. Kupka, F., Paunzen, E., Maitzen, H.M., *The 5200-Å flux depression of chemically peculiar stars – I. Synthetic Δa photometry: the normality line*, Mon. Not. Roy. Astron. Soc. 341, 849-854 (2003)

25. Kupka, F., Paunzen, E., Iliev, I.Kh., Maitzen, H.M., *The 5200-Å flux depression of chemically peculiar stars – II. The cool CP and λ Bootis stars.*, Mon. Not. Roy. Astron. Soc. 352, 863-876 (2004)

26. Montalbán, J., D'Antona, F., Kupka, F., Heiter, U., *Convection in the atmospheres and envelopes of Pre-Main Sequence stars*, Astron. Astrophys. 416, 1081-1096 (2004)

27. Montgomery, M.H., Kupka, F., *White dwarf envelopes: further tests of non-local models of convection*, Mon. Not. Roy. Astron. Soc. 350, 267-276 (2004)

28. Nendwich, J., Heiter, U., Kupka, F., Nesvacil, N., Weiss, W.W., *Interpolation of Stellar Model Grids and Application to the NEMO Grid*, Comm. in Asteroseismology 144, 43-78 (2004)

29. Kupka, F., *Some physics we can learn from spectroscopy of A-type stars* in Proc. of the 8th Int. Coll. on Atomic Spectra and Oscillator Strengths, Madison WI, USA, 2004, Phys. Scripta T119, 20-25 (2005)

30. Samadi, R., Kupka, F., Goupil, M.-J., Lebreton, Y., van't Veer-Menneret, C., *Influence of local treatments of convection upon solar p mode excitation rates.*, Astron. Astrophys. 445, 233-242 (2006)

31. Frémaux, J., Kupka, F., Boisson, C., Joly, M., Tsymbal, V., *Prospects for population synthesis in the H band: NeMo grids of stellar atmospheres compared to observations*, Astron. Astrophys. 449, 109-125 (2006)

32. Belkacem, K., Samadi, R., Goupil, M.-J., Kupka, F., *A Closure Model with Plumes. I. The Solar Convection*, Astron. Astrophys. 460, 173-182 (2006)

33. Belkacem, K., Samadi, R., Goupil, M.-J., Kupka, F., Baudin, F., *A Closure Model with Plumes. II. Application to the Stochastic Excitation of Solar p-modes*, Astron. Astrophys. 460, 183-190 (2006)

34. Kupka, F., Robinson, F.J., *On the effects of coherent structures on higher order moments in models of solar and stellar surface convection*, Mon. Not. Roy. Astron. Soc. 374, 305-322 (2007)

35. Muthsam, H.J., Löw-Baselli, B., Obertscheider, Chr., Langer, M., Lenz, P., Kupka, F., *High-resolution models of solar granulation: the two-dimensional case*, Mon. Not. Roy. Astron. Soc. 380, 1335-1340 (2007)

36. Samadi, R., Belkacem, K., Goupil, M.J., Dupret, M.-A., Kupka, F., *Modelling the excitation of acoustic modes in α Cen A*, Astron. Astrophys. 489, 291-299 (2008)

37. Landstreet, J.D., Kupka, F., Ford, H.A., Officer, T., Sigut, T.A.A., Silaj, J., Strasser, S., Townshend, A., *Atmospheric velocity fields in tepid main sequence stars*, Astron. Astrophys. 503, 973-984 (2009)

38. Kupka, F., Ballot, J., Muthsam, H.J., *Effects of resolution and helium abundance in A star surface convection simulations*, Comm. in Asteroseismology 160, 30-63 (2009)

39. Muthsam, H.J., Kupka, F., Löw-Baselli, B., Obertscheider, C., Langer, M., Lenz, P., *ANTARES – A Numerical Tool for Astrophysical RESearch With applications to solar granulation*, New Astronomy 15, 460–475 (2010)

40. Chaplin, W.J., et al. (with 108 co-authors including F. Kupka), *The asteroseismic potential of* Kepler*: first results for solar-type stars*, Astrophys. Jour. Letters 713, L169–L175 (2010)

41. Dubernet, M.L., et al. (with 31 co-authors including F. Kupka), *Virtual atomic and molecular data centre*, Jour. Quant. Spectr. Rad. Transfer 111, 2151–2159 (2010)

42. Karoff, C., et al. (with 48 co-authors including F. Kupka), *Asteroseismology of solar-type stars with Kepler I: Data analysis*, Astronon. Nachrichten 331, 972–976 (2010)

43. Kupka, F., Happenhofer, N., Higueras, I., Koch, O., *Total–Variation–Diminishing Implicit–Explicit Runge–Kutta Methods for the Simulation of Double-Diffusive Convection in Astrophysics*, J. Comput. Phys. 231, 3561–3586 (2012)

44. Happenhofer, N., Grimm-Strele, H., Kupka, F., Löw-Baselli, B., Muthsam, H., *A Low Mach Number Solver: Enhancing Applicability*, J. Comput. Phys. 236, 96–118 (2013)

45. Mundprecht, E., Muthsam, H.J., Kupka, F., *Multidimensional realistic modelling of Cepheid-like variables — I. Extensions of the ANTARES code*, Mon. Not. Roy. Astron. Soc. 435, 3191–3205 (2013)

46. Grimm-Strele, H., Kupka, F., Muthsam, H.J., *Curvilinear Grids for WENO Methods in Astrophysical Simulations*, Comp. Phys. Comm. 185 (3), 764–776 (2014)

47. Higueras, I., Happenhofer, N., Koch, O., Kupka, F., *Optimized Strong Stability Preserving IMEX Runge-Kutta Methods*, Jour. Comp. Appl. Math. 272, 116–140 (2014)

48. Rauer, H., et al. (with 160 co-authors including F. Kupka), *The PLATO 2.0 Mission*, Experimental Astronomy 38, 249–330 (2014)

49. Grimm-Strele, H., Kupka, F., Löw-Baselli, B., Mundprecht, E., Zaussinger, F., Schiansky, P., *Realistic Simulations of Stellar Surface Convection with ANTARES: I. Boundary Conditions and Model Relaxation*, New Astronomy 34, 278–293 (2015)

50. Grimm-Strele, H., Kupka, F., Muthsam, H.J., *Achievable Efficiency of Numerical Methods for Simulations of Solar Surface Convection*, Comp. Phys. Comm. 188, 7–20 (2015)

51. Mundprecht, E., Muthsam, H.J., Kupka, F., *Multidimensional realistic modelling of Cepheid-like variables – II: Analysis of a Cepheid model*, Mon. Not. Roy. Astron. Soc. 449, 2539–2552 (2015)

52. Kupka, F., Losch, M., Zaussinger, F., Zweigle, T., *Semi-convection in the ocean and in stars: A multi-scale analysis*, Met. Zeitschrift 24(3), 343–358 (2015), free access online at `http://dx.doi.org/10.1127/metz/2015/0643`

53. Kupka, F., Muthsam, H.J., *Modelling of Stellar Convection*, Living Rev. in Comp. Astrophys. 3:1 (2017), 159 pages, free access online at `http://dx.doi.org/10.1007/s41115-017-0001-9`

54. Kupka, F., Zaussinger, F., Montgomery, M.H., *Mixing and Overshooting in Surface Convection Zones of DA White Dwarfs: First Results from ANTARES*, Mon. Not. Roy. Astron. Soc. 474, 4660–4671 (2018) published online at `http://dx.doi.org/10.1093/mnras/stx3119` preprint available at `http://arxiv.org/abs/1712.00641`

55. Belkacem, K., Kupka, F., Samadi, R., Grimm-Strele, H., *Solar p-mode damping rates: insight from a 3D hydrodynamical simulation*, Astron. Astrophys. 625, A20 (2019), 15 pages, published online at `https://doi.org/10.1051/0004-6361/201834223`, preprint available at `http://arxiv.org/abs/1903.05479`

56. Zaussinger, F., Kupka, F., *Layer formation in double-diffusive convection over resting and moving heated plates*, Theor. Comp. Fluid Dyn. 33, 383–409 (2019), published online at `https://doi.org/10.1007/s00162-019-00499-7`, preprint available at `http://arxiv.org/abs/1811.11800`

57. Kostogryz, N., Kupka, F., Piskunov, N., Fabbian, D., Krüger, D., Gizon, L., *Accurate short-characteristics radiative transfer in A Numerical Tool for Astrophysical RE-Search (ANTARES)*, Solar Physics 296, 46 (2021), 24 pages, published online at `https://doi.org/10.1007/s11207-021-01777-6`

58. Belkacem, K., Kupka, F., Philidet, J., Samadi, R., *Surface effects and turbulent pressure. Assessing the Gas-*$\Gamma 1$ *and Reduced-*$\Gamma 1$ *empirical models*, Astron. Astrophys. 646, L5 (2021), 7 pages, published online at `https://doi.org/10.1051/0004-6361/202040259`

59. Spada, F., Demarque, P., Kupka, F., *Stellar evolution models with entropy-calibrated mixing-length parameter: application to red giants*, Mon. Not. Roy. Astron. Soc. 504, 3128–3138 (2021), published online at `http://dx.doi.org/10.1093/mnras/stab1106`, preprint available at `http://arxiv.org/abs/2104.08067`

60. Kupka, F., Ahlborn, F., Weiss, A., *Stellar evolution models with overshooting based on 3-equation non-local theories: I. Physical basics and the computation of the dissipation rate*, Astron. Astrophys. 667, A96 (2022), 17 pages, published online at `https://doi.org/10.1051/0004-6361/202243125`

61. Ahlborn, F., Kupka, F., Weiss, A., Flaskamp, M., *Stellar evolution models with overshooting based on 3-equation non-local theories: II. Main sequence models of A- and B-type stars*, Astron. Astrophys. 667, A97 (2022), 17 pages, published online at `https://doi.org/10.1051/0004-6361/202243126`

1.3.2 Bereits eingereicht

1. Kupka, F., Fabbian, D., Zaussinger, F., Krüger, D., Gizon, L., *Swaying oscillations in turbulent Rayleigh-Bénard convection at low Prandtl number*, submitted to Astron. Astrophys. (2023)

2. Koch, O., Acar, K., Auzinger, W., Kupka, F., Moser, B., *Adaptive exponential multi-operator splitting for MHD*, submitted to Int. Jour. Appl. Comp. Math. (2023)

1.4 Beiträge in Monographien

1.4.1 Erschienen

1. Hillebrandt, W., Kupka, F., *An Introduction to Turbulence*, in *Interdisciplinary Aspects of Turbulence*, Lecture Notes in Physics Vol. 756, 1–20, edts. W. Hillebrandt, F. Kupka, Springer Verlag, Berlin (2009)

2. Kupka, F., *Turbulent Convection and Numerical Simulations in Solar and Stellar Astrophysics*, in *Interdisciplinary Aspects of Turbulence*, Lecture Notes in Physics Vol. 756, 49–105, edts. W. Hillebrandt, F. Kupka, Springer Verlag, Berlin (2009)

3. Zaussinger, F., Kupka, F., Muthsam, H.J., *Semiconvection*, in *Studying Stellar Rotation and Convection: Theoretical Background and Seismic Diagnostic*, Lecture Notes in Physics Vol.

865, 219–237, edts. M. Goupil, K. Belkacem, C. Neiner, F. Lignières, J.J. Green, Springer Verlag, Berlin (2013)

4. Kupka, F., *Thermal Convection in Stars and in Their Atmosphere*, in *Multi-Dimensional Processes In Stellar Physics*, edts. M. Rieutord, I. Baraffe, Y. Lebreton, EDP Sciences Proceedings, Les Ulis (2020), 69–110, preprint available at `https://arxiv.org/abs/2001.11540`

1.5 Tagungsberichte

1.5.1 Referierte Tagungsberichte

1. Kupka, F., *New models for the convective flux in stellar atmospheres*, in *Stellar Surface Structure*, IAU Symposium 176, 557-564, edts. K.G. Strassmeier, J.L. Linsky, Kluwer, Dordrecht (1996)

2. Kupka, F., *Sparse grid spectral methods and some results from approximation theory*, in *Domain Decomposition 11*, 57-64, edts. C.-H.Lai, P.E.Bjørstad, M.Cross & O.B.Widlund, Greenwich, UK (1999) (`http://www.ddm.org/DD11/Kupka.pdf`)

3. Kupka, F., Muthsam, H.J., Zaussinger, F., Grimm-Strele, H., Happenhofer, N., Löw-Baselli, B., Mundprecht, E., Obertscheider, C., *Solar Surface Flow Simulations at Ultra-High Resolution*, in *High Performance Computing in Science and Engineering, Garching/Munich 2009*, 415–425, edts. S. Wagner, M. Steinmetz, A. Bode and M.M. Müller, Springer Verlag, Berlin (2010)

4. Kupka, F., and the VAMDC Collaboration (P.I. M.-L. Dubernet), *VAMDC as a resource for atomic and molecular data and the new release of VALD*, Baltic Astronomy 20(4), 503-510 (2011)

5. Happenhofer, N., Koch, O., Kupka, F., Zaussinger, F., *Total Variation Diminishing Implicit Runge–Kutta Methods for Dissipative Advection–Diffusion Problems in Astrophysics*, PAMM – Proceedings in Applied Mathematics and Mechanics 11, 777-778 (2011)

6. Kupka, F., Mundprecht, E., Muthsam, H.J., *Pulsation – Convection Interaction*, in *Precision Asteroseismology*, IAU Symposium 301, edts. W. Chaplin, J. Guzik, G. Handler, A. Pigulski, 177–184 (2014)

7. Kupka, F., Grimm-Strele, H., Happenhofer, N., Higueras, I., Koch, O., Muthsam, H.J., *Improved Time Integration for WENO Methods in Astrophysical Applications*, in *8th International Conference of Numerical Modeling of Space Plasma Flows (ASTRONUM 2013)*, edts. N.V. Pogorelov, E. Audit, G.P. Zank, Astron. Soc. Pacific Conf. Ser. Vol. 488, 243–248, San Francisco (2014)

8. Blies, P.M., Kupka, F., Muthsam, H.J., *The ANTARES Code: New Developments*, in *Numerical Modeling of Space Plasma Flows ASTRONUM-2014 (9th Annual International Conference)*, edts. N.V. Pogorelov, E. Audit, G.P. Zank, Astron. Soc. Pacific Conf. Ser. Vol. 498, 191–196, San Francisco (2015) (free access at `http://www.aspbooks.org/a/volumes/article_details/?paper_id=37447`)

9. Zaussinger, F., Kupka, F., Egbers, Ch., Neben, M., Hücker, S., Bahr, C., Schmitt, M., *Semi-convective layer formation*, in *11th International Conference on Numerical Modeling of Space Plasma Flows: ASTRONUM-2016*, edts. N.V. Pogorelov, E. Audit, G.P. Zank, Journal of Physics: Conf. Series 837, 012012 (2017) (7 pages)

10. Zaussinger, F., Kupka, F., Montgomery, M.H., Egbers, Ch., *Numerical simulation of DA white dwarf surface convection*, in *Numerical Modeling of Space Plasma Flows: ASTRONUM-2017 (12th International Conference*, edts. N.V. Pogorelov, E. Audit, G.P. Zank, Journal of Physics: Conf. Series Vol. 1031, 012013 (2018) (7 pages)

11. Krüger, D., Kostogryz, N., Fabbian, D., Kupka, F., *Improved Radiative Transfer in the ANTARES Code*, in *Numerical Modeling of Space Plasma Flows: ASTRONUM-2018 (13th International Conference*, edts. N.V. Pogorelov, E. Audit, G.P. Zank, Journal of Physics: Conf. Series Vol. 1225, 012017 (2019) (9 pages)

12. Fabbian, D., Kupka, F., Krüger, D., Kostogryz, N. M., Piskunov, N., *Shine BRITE: shedding light on stellar variability through advanced models*, in *Proceedings of the conference Stars and their Variability Observed from Space*, edts. C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, A. F. J. Moffat, Univ. of Vienna (2020), 155–159, online available at `https://ui.adsabs.harvard.edu/link_gateway/2020svos.conf..155F/PUB_PDF`

13. Kupka, F., *3D Hydrodynamical Simulations of Stellar Convection for Helio- and Asteroseismology*, in *Proceedings of the conference Stars and their Variability Observed from Space*, edts. C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, A. F. J. Moffat, Univ. of Vienna (2020), 209–214, online available at `https://ui.adsabs.harvard.edu/link_gateway/2020svos.conf..209K/PUB_PDF`

14. Kupka, F., Zaussinger, F., Fabbian, D., Krüger, D., *The ANTARES code: recent developments and applications*, in *Numerical Modeling of Space Plasma Flows: ASTRONUM-2019 (14th International Conference*, edts. N.V. Pogorelov, E. Audit, G.P. Zank, Journal of Physics: Conf. Series Vol. 1623, 012016 (2020) (11 pages)

1.5.2 Referierte Tagungsberichte, im Druck

1. Kupka, F., *Modelling of Coherent Structures in Turbulent Convection*, in Turbulence and wave processes, edts. K. Moffat, D. Georgievsky, D. Millionshchikov, A. Petrosyan, 13 pages, accepted for publication in Journal of Physics: Conference Series (2024)

1.5.3 Tagungsberichte (inkl. Übersichtsvorträge und kleiner referierter Berichte)

1. Kupka, F., *Beyond Mixing Length Theory*, in *M.A.S.S. - Model Atmospheres and Spectrum Synthesis*, edts. S.J. Adelman, F. Kupka and W.W. Weiss, ASP Conf. Ser. Vol. 108, 73-84, San Francisco (1996)

2. Ryabchikova, T.A., Piskunov, N.E., Kupka, F., Weiss, W.W., *The Vienna Atomic Line database: present state and future development*, in *International Cooperation in Dissemination of the Astronomical Data*, edts. F. Ochsenbein and A. Hearn, Baltic Astronomy 6(2), 244-247 (1997)

3. Audard, N., Kupka, F., Morel, P., Provost, J., Weiss, W.W., *Atmospheric structure and acoustic cut-off frequency of roAp stars*, in *Europ. Work. Group for CP stars, 26th Workshop*, edts. P. North, J. Žižňovský, Contrib. Astron. Obs. Skalnaté Pleso 27(3), 304-308 (1998)

4. Kupka, F., Piskunov, N.E., *CP star atmospheres based on individual ODFs*, in *Europ. Work. Group for CP stars, 26th Workshop*, edts. P. North, J. Žižňovský, Contrib. Astron. Obs. Skalnaté Pleso 27(3), 228-232 (1998)

5. Smalley, B., Kupka, F., *The effects of convection on the colours of A and F stars*, in *Europ. Work. Group for CP stars, 26th Workshop*, edts. P. North, J. Žižňovský, Contrib. Astron. Obs. Skalnaté Pleso 27(3), 233-237 (1998)

6. Kupka, F., *Computing solar and stellar overshooting with turbulent convection models. First tests of a fully non-local model.*, in *Theory and Tests of Convection in Stellar Structure*, edts. A. Gimenez, E.F. Guinan and B. Montesinos, ASP Conf. Ser. 173, 157-170, San Francisco (1999)

7. Weiss, W.W., Kupka, F., *Convection in Main Sequence Stellar Atmospheres*, in *Theory and Tests of Convection in Stellar Structure*, edts. A. Gimenez, E.F. Guinan and B. Montesinos, ASP Conf. Ser. 173, 21-30, San Francisco (1999)

8. Kupka, F., Ryabchikova, T.A., Piskunov, N.E., Stempels, H.C., Weiss, W.W., *VALD-2 - The new Vienna Atomic Line Data Base*, Baltic Astronomy 9(4), 590-594 (2000)

9. Kupka, F., *Turbulent convection: comparison of Reynolds stress models with numerical simulations*, Proceedings of the COROT/SWG Milestone 2000 meeting, eds. E. Michel, A. Hui-Bon-Hoa, Paris, in print (2001)
(`http://www.lesia.obspm.fr/projets/corotswg/MilestoneProc/MilestoneFKa.ps`)

10. Kupka, F., Bruntt, H., *Using TEMPLOGG for determining stellar parameters of MONS targets*, 39-46, Proceedings of the First COROT/MONS/MOST Ground-based Support Workshop, edt. C. Sterken, University of Brussels (2001)

11. Kupka, F., Lüftinger, T., *TEMPLOGG – determination of stellar parameters*, Proceedings of the COROT/SWG Milestone 2000 meeting, eds. E. Michel, A. Hui-Bon-Hoa, Paris, in print (2001)
(`http://www.lesia.obspm.fr/projets/corotswg/MilestoneProc/MilestoneFKc.ps`)

12. Kupka, F., Montgomery, M.H., *Non-local convection using the Reynolds stress approach; δ Scuti type stars.*, Proceedings of the COROT/SWG Milestone 2000 meeting, edt. E. Michel, A. Hui-Bon-Hoa, Paris, in print (2001)
(`http://www.lesia.obspm.fr/projets/corotswg/MilestoneProc/MilestoneFKb.ps`)

13. Garrido, R., Claret, A., Moya, A., Kupka, F., Heiter, U., Barban, C., Goupil, M.-J., van 't Veer-Menneret, C., *Colors in Eddingtion: Implications for mode identification*, Proc. 1st Eddington workshop "Stellar Structure and Habitable Planet Finding", Cordoba, Spain 11–15 June 2001 (ESA SP-485, Noordwijk: ESA Publications Division), eds. F. Favata, I.W. Roxburgh, D. Galadì, 103-107 (2002)

14. Garrido, R., Moya, A., Goupil, M.-J., Barban, C., van 't Veer-Menneret, C., Kupka, F., Heiter, U., *Mode identification using the exoplanetary camera*, Papers from the Vienna COROT meeting, Comm. in Asteroseismology 141, 48-50 (2002)

15. Kupka, F., *Convection in A stars*, in *International Conference on magnetic fields in O, B and A stars*, edts. L.A. Balona, H.F. Henrichs and R. Medupe, ASP Conf. Ser. Vol. 305, 190-198 (2003)

16. Kupka, F., *Non-local convection models for stellar atmospheres and envelopes*, in *Modelling of Stellar Atmospheres*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, 143-156 (2003)

17. Kupka, F., *Convection in stars*, in *The A-Star Puzzle*, IAU Symposium 224, edts. J. Zverko, W.W. Weiss, J. Žižňovský and S.J. Adelman, 119-129 (2004)

18. Kupka, F., *Turbulent convection in astrophysics and geophysics — a comparison*, in *Proceedings of the Workshop on "Interdisciplinary Aspects of Turbulence"*, Proceedings MPA/P15, edts. F. Kupka, W. Hillebrandt, 141-148 (2005)

19. Kupka, F., *Direct Simulations of Radiative and Convective Zones*, in *Element Stratification in Stars: 40 Years of Atomic Diffusion*, edts. G. Alecian, O. Richard and S. Vauclair, EAS Publications Series, Vol. 17, 177-186 (2005)

20. Samadi, R., Belkacem, K., Goupil, M.-J., Kupka, F., Dupret, M.-A., *Solar-like oscillation amplitudes and line-widths as a probe for turbulent convection in stars*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 349-357 (2007)

21. Kupka, F., *Shear Driven Turbulence and Coherent Structures in Solar Surface Simulations*, in *The Art of Modelling Stars in the 21st Century*, IAU Symposium 252, edts. L. Deng and K.L. Chan, 451-461 (2008)

22. Kupka, F., Belkacem, K., Goupil, M.-J., Samadi, R., *Using p-mode excitation rates for probing convection in solar-like stars*, in *Proceedings of the JENAM 2008 Symposium N^{o}4: Asteroseismology and Stellar Evolution*, edts. S. Schuh and G. Handler, Comm. in Asteroseimology 159, 24-26 (2009)

23. Kupka, F., *3D Stellar Atmospheres for Stellar Structure Models and Asteroseismology*, Memorie della Società Astronomica Italiana, vol. 80, 701-710 (2009)

24. Rixon, G., et al. (with 43 co-authors including F. Kupka), *VAMDC – The Virtual Atomic and Molecular Data Centre – A New Way to Disseminate Atomic and Molecular Data - VAMDC Level 1 Release*, in *7th International Conference on Atomic and Molecular Data and Their Applications – ICAMDATA–2010*, AIP Conf. Proc. 1344, 107-115 (2011)

25. Muthsam, H.J., Kupka, F., Mundprecht, E., Zaussinger, F., Grimm-Strele, H., Happenhofer, N., *Simulations of stellar convection, pulsation and semiconvection*, in *Astrophysical Dynamics: From Stars to Galaxies*, IAU Symposium 271, edts. N.H. Brummell, A.S. Brun, M.S. Miesch and Y. Ponty, 179-186 (2011)

26. Muthsam, H.J., Kupka, F., *Multidimensional modelling of classical pulsating stars*, in *RRL2015 – High-Precision Studies of RR Lyrae Stars*, edts. L. Szabados, R. Szabó and K. Kinemuchi, No. 105 (Vol. 14, Part 1), Comm. Konkoly Observ. of the Hungarian Acad. Sci., 117-124 (2016)

27. Kupka, F., Belkacem, K., Samadi, R., Deheuvels, S., *Studying p-mode damping and the surface effect with hydrodynamical simulations*, in *Second BRITE-Constellation Science Conference – Small satellites – big science*, edts. K. Zwintz and E. Poretti, Proceedings of the Polish Astronomical Society, Vol. 5, 222–227 (2017)

1.6 Kurzberichte, Konferenzposter, elektronisch publizierte Konferenzvorträge

1. Kupka, F., Ryabchikova, T.A., Bologova, G., Kuschnig, R., Weiss, W.W., Mathys, G., *Abundance analysis of cool oscillating CP2 stars*, in *Chemically Peculiar and Magnetic Stars, on and close to the Upper Main Sequence*, 130-136, edts. J. Zverko, J. Žižňovský, Astron. Inst. Slovak Academy of Sciences (1994)

2. Muthsam, H.J., Göb, W., Kupka, F., Liebich, W., Zöchling, J., *The Interaction of Convection Zones*, in *Solar Magnetic Fields*, 152-154, edts. M. Schüssler and W. Schmidt, Cambridge University Press, Cambridge (1994)

3. Kupka, F., Gelbmann, M., Heiter, U., Kuschnig, R., Weiss, W.W., Ryabchikova, T.A., *Fine Analysis of Pulsating CP Stars*, in *Astrophysical Applications of Stellar Pulsation*, IAU Colloquium 155, 317-318, edts. R.S. Stobie, P.A. Whitelock, Astron. Soc. Pacific Conf. Ser. Vol. 83, San Francisco (1995)

4. Paunzen, E., Gelbmann, M., Heiter, U., Kupka, F., Kuschnig, R., Weiss, W.W., *The evolutionary status of lambda Bootis stars*, in *Astrophysical Applications of Stellar Pulsation*, IAU Colloquium 155, 315-316, edts. R.S. Stobie, P.A. Whitelock, Astron. Soc. Pacific Conf. Ser. Vol. 83, San Francisco (1995)

5. Piskunov, N.E., Kupka, F., Ryabchikova, T.A., Weiss, W.W., Jeffery, C.S., *The Vienna Atomic Line Data Base*, in *Workshop on Laboratory and astronomical high resolution spectra*, edts. A.J. Sauval, R. Blomme and N. Grevesse, ASP Conf. Ser. Vol. 81, 610-612, San Francisco (1995)

6. Griffin, R.E.M., Kupka, F., *Introduction*, in *M.A.S.S. - Model Atmospheres and Spectrum Synthesis*, edts. S.J. Adelman, F. Kupka and W.W. Weiss, ASP Conf. Ser. Vol. 108, 299, San Francisco (1996)

7. Ryabchikova, T., Piskunov, N., Savanov, I., Kupka, F., Eu III *identification and* Eu *abundance in cool CP stars*, in *Europ. Work. Group for CP stars, 26th Workshop*, edts. P. North, J. Žižňovský, Contrib. Astron. Obs. Skalnaté Pleso 27(3), 359-361 (1998)

8. Cowley, C.R., Kupka, F., Mathys, G., *Line Blanketing in Przybylski's Star*, American Astronomical Society Meeting 195, #50.02, Bulletin of the AAS 31, 1447 (1999)

9. Gardiner, R., Smalley, B., Kupka, F., *Testing convection theories using Balmer line profiles of A, F, and G stars*, in *Theory and Tests of Convection in Stellar Structure*, edts. A. Gimenez, E.F. Guinan and B. Montesinos, ASP Conf. Ser. 173, 213-216, San Francisco (1999)

10. Weiss, W.W., Ryabchikova, T.A., Kupka, F., Lüftinger, T.R., Savanov, I.S., Malashenko, V., *Spectroscopic Survey of Rapidly Oscillating Ap Stars*, in *The Impact of Large Scale Surveys on Pulsating Star Research*, edts. L. Szabados and D.W. Kurtz, IAU Coll. 176, ASP Conf. Ser. 203, 487-488 San Francisco (2000)

11. Montalbán, J., D'Antona, F., Kupka, F., Schmidt, W., *A new project for theoretical colors of globular cluster stars*, in *Cosmic Evolution*, 243-244, edts. E. Vangioni-Flam, R. Ferlet and M. Lemoine, World Scientific, New Jersey (2001)

12. Heiter, U., Kupka, F., Samadi, R., Barban C., van 't Veer-Menneret, C., Lebreton, Y., Goupil, M.-J., Garrido, R., Weiss, W.W., *Application of new ATLAS9 model atmosphere grids*, in *Modelling of Stellar Atmospheres*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, E10 (CD-ROM), 1-9 (2003)

13. Knoglinger, P., Nesvacil, N., Kupka, F., Mittermayer, P., Piskunov, N., Weiss, W.W., Bruntt, H., *Tools and Methods for Abundance Analysis*, in *Modelling of Stellar Atmospheres*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, E66 (CD-ROM), 1-3 (2003)

14. Landstreet, J.D., Kochukhov, O., Kupka, F., Rybachikova, T., Weiss, W.W., *Observations of rapid radial velocity variations of spectral lines in rapidly oscillating Ap (roAp) stars*, in *Asteroseismology Across the HR Diagram*, ISBN 1402011733, edts. M.J. Thompson, M.S. Cunha, M.J.P.F.G. Monteiro, Kluwer Academic Publishers, Dordrecht, P347-P350 (CD-ROM) (2003)

15. Montalbán, J., D'Antona, F., Kupka, F., *Problems and difficulties in building up stellar models with non-grey boundary conditions*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, C6 (CD-ROM), 1-3 (2003)

16. Montalbán, J., Kupka, F., D'Antona, F., Heiter, U., *Pre-Main Sequence and Main Sequence models using the Vienna grids of ATLAS9 atmospheres*, in *Modelling of Stellar Atmospheres*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, C5 (CD-ROM), 1-12 (2003)

17. Nendwich, J., Nesvacil, N., Weiss, W.W., Heiter, U., Kupka, F., *Colors of ATLAS9 Atmospheres and their Interpolation*, in *Modelling of Stellar Atmospheres*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, A9 (CD-ROM), 1-5 (2003)

18. Smalley, B., Kupka, F., *Using Balmer line profiles to investigate convection in A and F stars*, in *Modelling of Stellar Atmospheres*, IAU Symposium 210, edts. N.E. Piskunov, W.W. Weiss and D.F. Gray, C10 (CD-ROM), 1-11 (2003)

19. Kupka, F., Landstreet, J.D., Sigut, A., Bildfell, C., Ford, A., Officer, T., Silaj, J., Townshend, A., *Observational signatures of atmospheric velocity fields in main sequence stars*, in *The A-Star Puzzle*, IAU Symposium 224, edts. J. Zverko, W.W. Weiss, J. Žižňovský and S.J. Adelman, 573-579 (2004)

20. Samadi, R., Goupil, M.-J., Lebreton, Y., van't-Veer, C., Kupka, F., *Effect of Local Treatments of Convection upon the Solar P-Mode Excitation Rates*, in *Helio- and Asteroseismology: Towards a Golden Future, Proc. of the SOHO 14 / GONG 2004 Workshop, New Haven, CT, USA*, eds. D. Danesy, ESA SP-559, 611-614 (2004)

21. Stütz, C., Kupka, F., *Stellar model atmospheres with emphasis on velocity dynamics*, in *The A-Star Puzzle*, IAU Symposium 224, edts. J. Zverko, W.W. Weiss, J. Žižňovský and S.J. Adelman, 570-572 (2004)

22. Silaj, J., Townshend, A., Kupka, F., Landstreet, J., Sigut, A., *Spectrum Synthesis of Sharp-Line B, A and F stars*, in *Element Stratification in Stars: 40 Years of Atomic Diffusion*, edts. G. Alecian, O. Richard and S. Vauclair, EAS Publications Series, Vol. 17, 345-348 (2005)

23. Barban, C., Goupil, M.-J., van't Veer-Menneret, C., Garrido, R., Heiter, U., Kupka, F., *Limb-darkening coefficients for the purpose of pulsation mode identification for A-F stars.*, in Memorie della Societa' Astronomica Italiana, Vol. 77, 101-102 (2006)

24. Belkacem, K., Samadi, R., Goupil, M.-J., Kupka, F., Baudin, F., *Excitation of solar* p*-modes. Effect of the asymmetry of the convection zone*, in SF2A-2006: Semaine de l'Astrophysique Française, meeting held in Paris, France, June 26-30, 2006, edts. D. Barret, F. Casoli, T. Contini, G. Lagache, A. Lecavelier and L. Pagani, 523-526 (2006)

25. Belkacem, K., Samadi, R., Goupil, M.-J., Kupka, F., Baudin, F., *A closure model for turbulent convection: application to the excitation of p modes*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 376-378 (2007)

26. Belkacem, K., Samadi, R., Goupil, M.-J., Kupka, F., Dupret, M.-A., *Two-scale mass-flux closure models for turbulence: p-mode amplitudes in solar-like stars*, in *Proceedings of the Vienna Workshop on the Future of Asteroseismology*, edts. G. Handler and G. Houdek, Comm. in Asteroseimology 150, 153-154 (2007)

27. Heiter, U., Smalley, B., Stütz, Ch., Kupka, F., Kochukhov, O., *Eclipsing binaries as a test for synthetic photometry*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 169-171 (2007) (abstract also appeared in IAU Symposium 240, edts. W.I. Hartkopf, E.F. Guinan and P. Harmanec, p. 328, 2007)

28. Kupka, F., *Some open questions concerning the modelling of non-locality in Reynolds stress type models of stellar convection*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 92-94 (2007)

29. Kupka, F., Muthsam, H.J., *Probing Reynolds stress models of convection with numerical simulations: I. Overall properties: fluxes, mean profiles*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 80-82 (2007)

30. Kupka, F., Muthsam, H.J., *Probing Reynolds stress models of convection with numerical simulations: II. Non-locality and third order moments*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 83-85 (2007)

31. Kupka, F., Muthsam, H.J., *Probing Reynolds stress models of convection with numerical simulations: III. Compressibility modelling and dissipation*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 86-88 (2007)

32. Kupka, F., Robinson, F.J., *Coherent structures in granulation convection and their importance for higher order closure models*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 74-76 (2007)

33. Montalbán, J., Nendwich, J., Heiter, U., Kupka, F., Paunzen, E., Smalley, B., *Effect of the microturbulence parameter on the Color-Magnitude Diagram*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 166-168 (2007)

34. Muthsam, H.J., Löw-Baselli, B., Obertscheider, Chr., Langer, M., Lenz, P., Kupka, F., *Modelling of solar granulation*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 89-91 (2007)

35. Roxburgh, I.W., Kupka, F., *Reynolds stress models of convection in convective cores*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 77-79 (2007)

36. Roxburgh, I.W., Kupka, F., *Mixing length model of convection in stellar cores*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 98-99 (2007)

37. Heiter, U., Barklem, P., Fossati, L., Kildiyarova, R., Kochukhov, O., Kupka, F., Obbrugger, M., Piskunov, N., Plez, B., Ryabchikova, T., Stempels, H. C., Stütz, Ch., Weiss, W.W., *VALD – an atomic and molecular database for astrophysics*, in Journal of Physics: Conference Series, Vol. 130, Issue 1, pp. 012011 (2008) (4 pages)

38. Kupka, F., Muthsam, H.J., *Analysing the Contributions in Moment Equations of Reynolds Stress Models of Convection with Numerical Simulations*, in *The Art of Modelling Stars in the 21st Century*, IAU Symposium 252, edts. L. Deng and K.L. Chan, 463-464 (2008)

39. Obbrugger, M., Heiter, U., Kupka, F., Lüftinger, T., Nesvacil, N., Piskunov, N., Ryabchikova, T.A., Stempels, H.C., Stütz, Ch., Weiss, W.W., *Vald*, in *Astronomical Spectroscopy and Virtual Observatory*, Proceedings of the EURO-VO Workshop, edts. M. Guainazzi and P. Osuna, published by the European Space Agency, 215-216 (2008)

40. Kupka, F., Fabbian, D., Krüger, D., Kostogryz, N., Gizon, L., *On long-duration 3D simulations of stellar convection using ANTARES*, in *Astronomy in Focus*, Volume 1, XXXth IAU General Assembly, edts. G. Kopp, A. Shapiro, 373–376 (2020)

41. Kupka, F., *On the Potential of the Reynolds Stress Approach to Model Convective Overshooting in Grids of Stellar Evolution Models*, in *Plato Mission Conference 2021*, Presentations

and posters of the online PLATO Mission Conference 2021, id.88 (2021), electronically freely accessible at https://doi.org/10.5281/zenodo.5572778

42. Fabbian, D., Caldiroli, A., Kupka, F., Montgomery, M.H., Muthsam, H.J., *Simulations of F- to A-type main-sequence and sub-giant stars*, held at *PLATO Stellar Science Conference 2023, Milazzo (Italy)*, online at https://plato-stesci2023.sciencesconf.org, id. 48. Slides available at https://dx.doi.org/10.5281/zenodo.8138223

43. Caldiroli, A., Fabbian, D., Kupka, F., Montgomery, M.H., Muthsam, H.J., *RHD simulation of convection in bright F-type stars*, held at *PLATO Stellar Science Conference 2023, Milazzo (Italy)*, online at https://plato-stesci2023.sciencesconf.org, id. 21. Slides available at https://dx.doi.org/10.5281/zenodo.8108227

44. Kupka, F., *Recent Theoretical Advances about Core Overshooting and Convective Penetration from a Convective Envelope*, held at *PLATO Stellar Science Conference 2023, Milazzo (Italy)*, online at https://plato-stesci2023.sciencesconf.org, id. 19. Slides available at https://dx.doi.org/10.5281/zenodo.10426053

1.7 Vorsitz bei Plenardiskussionen

1. Kupka, F., *Panel discussion section I*, in *The A-Star Puzzle*, IAU Symposium 224, edts. J. Zverko, W.W. Weiss, J. Žižňovský and S.J. Adelman, 465-471 (2004)

2. Kupka, F., *Round table discussion of session A: modelling convection and radiative transfer*, in *Convection in Astrophysics*, IAU Symposium 239, edts. F. Kupka, I.W. Roxburgh and K.L. Chan, 64-67 (2007)

1.8 Technische Berichte

1. Koch, O., Kupka, F., Löw-Baselli, B., Mayrhofer, A., Zaussinger, F., *SDIRK Methods for the ANTARES Code*, ASC Report 32/2010, ISBN 978-3-902627-03-2, Institute for Analysis and Scientific Computing, Vienna University of Technology, Wien (2010) (http://www.asc.tuwien.ac.at/preprint/2010/asc32x2010.pdf)

2. Happenhofer, N., Koch, O., Kupka, F., *IMEX Methods for the ANTARES Code*, ASC Report 27/2011, ISBN 978-3-902627-04-9, Institute for Analysis and Scientific Computing, Vienna University of Technology, Wien (2011) (http://www.asc.tuwien.ac.at/preprint/2011/asc27x2011.pdf)

3. Higueras, I., Happenhofer, N., Koch, O., Kupka, F., *Optimized IMEX Runge-Kutta Methods for Simulations in Astrophysics: A Detailed Study*, ASC Report 14/2012, ISBN 978-3-902627-05-6, Institute for Analysis and Scientific Computing, Vienna University of Technology, Wien (2012) (http://www.asc.tuwien.ac.at/preprint/2012/asc14x2012.pdf)

1.9 ArXiv Vordrucke

1. Blies, P., Kupka, F., Zaussinger, F. Hollerbach, R., *The effects of rotation on a double-diffusive layer in a rotating spherical shell*, (2014), preprint at `http://arxiv.org/abs/1404.6086`

1.10 Zusammenfassungen für Konferenzen

1. Kupka, F., *The hydrodynamic moment equations: an alternative treatment for stellar convection*, Publ. Astron. Obs. Belgrade 65, 13 (1999)

2. Kupka, F., Ryabchikova, T.A., *VALD – The Vienna Atomic Line Data Base: a survey*, Publ. Astron. Obs. Belgrade 65, 223 (1999)

3. Mason, N.J., et al. (with 13 co-authors including F. Kupka), *VAMDC: The Virtual Atomic and Molecular Data Centre: a Service Orientated Data Infrastructure for e-Research*, European Planetary Science Congress 2010, EPSC Abstracts Vol. 5, EPSC2010-861 (2010) (2 pages)

4. Zaussinger, F., Kupka, F., Muthsam, H.J., Happenhofer, N., Grimm-Strele, H., *Layered convection in double diffusive fluids*, EGU General Assembly 2012, Geophysical Research Abstracts Vol. 14, EGU2012-1830 (2012)

1.11 Formelle Arbeitsgruppenberichte

1. Cunha, M.S., Weiss, W.W., Dworetsky, M.M., Kochukhov, O., Kupka, F., Leblanc, F., Monier, R., Paunzen, E., Piskunov, N.E., Shibahashi, H., Smalley, B., Ziznovsky, J., *Inter-Division IV-V / Working Group Ap and Related Stars*, in *Transactions IAU*, Vol. 4, Issue 27A, Reports on Astronomy 2006-2009, ed. K. van der Hucht, 245-248 (2009)

2. Cunha, M.S., Weiss, W.W., Dworetsky, M.M., Kochukhov, O., Kupka, F., Leblanc, F., Monier, R., Paunzen, E., Piskunov, N.E., Shibahashi, H., Smalley, B., Ziznovsky, J., *Inter-Division IV-V / Working Group Ap and Related Stars*, in *Transactions IAU*, Vol. 6, Issue T27, Transactions IAU, 205-206 (2010)

3. Mathys, G., Cunha, M., Dworetsky, M., Kochukhov, O., Kupka, F., LeBlanc, F., Monier, R., Paunzen, E., Pintado, O., Piskunov, N., Ziznovsky, J., *Inter-Division IV-V / Working Group Ap and Related Stars*, in *Transactions IAU*, Vol. 7, Issue T28A, Transactions IAU, 203-206 (2012)