

Publications

- Bonaca, A., Basu, S., Tanner, J. D., *et al.* 2012, “An asteroseismic calibration of convection in stars”, *ApJ* (submitted)
- Mathur, S., Metcalfe, T. S., Woitaszek, M., . . . , Trampedach, R., *et al.* 2012, “A uniform asteroseismic analysis of 22 solar-type stars observed by Kepler”, *ApJ*, 749 (2), 152
- Miesch, M. S., Featherstone, N. A., Rempel, M., Trampedach, R. 2012, “On the amplitude of convective velocities in the deep solar interior”, *ApJ* (submitted)
- Trampedach, R., Asplund, M., Collet, R., Nordlund, Å., & Stein, R. F. 2012, “A grid of 3D stellar atmosphere models of solar metallicity: Granulation, synthetic photometry and limb darkening”, *A&A* (in preparation)
- Collet, R., Hayek, W., Asplund, M., Nordlund, Å., Trampedach, R., & Gudiksen, B. 2011, “Three-dimensional surface convection simulations of metal-poor stars. The effect of scattering on the photospheric temperature stratification”, *A&A*, 528, A32
- Trampedach, R. & Stein, R. F. 2011, “The mass mixing length in convective stellar envelopes”, *ApJ*, 731:78 (2), 7pp
- Augustson, K., Rast, M., Trampedach, R., & Toomre, J. 2011, “Modeling the near-surface shear layer: Diffusion schemes studied with CSS”, *J. of Phys. Conf. Series*, 271 (1), 012070
- Hayek, W., Asplund, M., Carlsson, M., Trampedach, R., *et al.* 2010, “Radiative transfer with scattering for domain-decomposed 3D MHD simulations of cool stellar atmospheres. Numerical methods and application to the quiet, non-magnetic, surface of a solar-type star”, *A&A*, 517, A49
- Trampedach, R. 2010, “Convection in stellar models”, *Ap&SS*, 328 (1–2), 213
- Karoff, C., Chaplin, W. J., Appourchaux, T., . . . , Trampedach, R., *et al.* 2010, “Asteroseismology of solar-type stars with Kepler I: Data analysis”, *Astron. Nach.*, 331 (9/10), 972
- Chaplin, W. J., Appourchaux, T., Elsworth, Y., . . . , Trampedach, R., *et al.* 2010, “The asteroseismic potential of Kepler: First results for solar-type stars”, *ApJ*, 713 (2), L169

- Pereira, T. M. D., Asplund, M., & Trampedach, R. 2008, “Comparing 3D solar model atmospheres with observations: Hydrogen lines and centre-to-limb variations”, in *Precision Spectroscopy in Astrophysics*, eds. N. Santos, L. Pasquini, A. Correia, & M. Romaniello, 313
- Collet, R., Asplund, M., & Trampedach, R. 2008, “Beyond 1D: Spectral line formation with 3D hydrodynamical model atmospheres of red giants”, *Mem. S.A.It.*, 79, 649
- Collet, R., Asplund, M., & Trampedach, R. 2007, “Three-dimensional hydrodynamical simulations of surface convection in red giant stars. Impact on spectral line formation and abundance analysis”, *A&A*, 469 (2), 687
- Trampedach, R. 2007, “A new stellar atmosphere grid-in 3D”, in *Conf. Proc. 948, UNSOLVED PROBLEMS IN STELLAR PHYSICS: A Conference in Honor of Douglas Gough*, eds. R. J. Stancliffe, G. Houdek, R. G. Martin, & C. A. Tout (Melville, NY: AIP), 141
- Collet, R., Asplund, M., & Trampedach, R. 2006, “The chemical compositions of the extreme halo stars HE 0107-5240 and HE 1327-2326 inferred from three-dimensional hydrodynamical model atmospheres”, *ApJ*, 644 (2), L121
- Trampedach, R., Däppen, W., & Baturin, V. A. 2006, “A synoptic comparison of the Mihalas-Hummer-Däppen and OPAL equations of state”, *ApJ*, 646 (1), 560
- Trampedach, R. 2006, “And we thought we knew what the sun was made of”, in *Conf. Ser. 354, Solar MHD Theory and Observations: A High Spatial Resolution Perspective*, eds. J. Leibacher, R. F. Stein, & H. Uitenbroek (San Francisco: ASP), 103
- Stein, R. F., Georgobiani, D., Trampedach, R., Ludwig, H.-G., & Nordlund, Å. 2005, “Excitation of p-modes in the sun and stars”, in *Highlights of Astronomy 13, XXVth General Assembly*, ed. O. Engvold (San Francisco: ASP), 411
- Stein, R. F., Georgobiani, D., Trampedach, R., Ludwig, H.-G., & Nordlund, Å. 2004, “Excitation of radial p-modes in the sun and stars”, in *IAU XXVth General Assembly, Solar Physics, Vol. 220, no. 2, The physics of solar and solar-like oscillations*, eds. T. Bedding & J. Leibacher (Berlin: Springer), 229
- Trampedach, R. 2004c, “Improved phenomenological equation of state in the chemical picture”, in *AIP Conf. Proc. 731, Equation-of-state and*

- Phase-transition Issues in Models of Ordinary Astrophysical Matter, eds. V. Čelebonović, W. Däppen, & D. Gough (New York: AIP), 99
- Trampedach, R. 2004b, “Ingredients for accurate simulations of convection in stellar envelopes”, PhD thesis, Michigan State University, East Lansing
- Trampedach, R. 2004a, “3D-simulation of the outer convection-zone of an A-star”, in IAU Symp. 224, The A-star puzzle, eds. J. Zverko, W. W. Weiss, J. Žižňovský, & S. J. Adelman (Cambridge University Press), 119
- Trampedach, R. & Asplund, M. 2003, “Radiative transfer with very few wavelengths”, in ASP Conf. Ser. 293, 3D Stellar Evolution, eds. S. Turcotte, S. S. Keller, & R. M. Cavallo (San Francisco: ASP), 209
- Trampedach, R. 2002, “Understanding the convective sun”, in SOHO 12/Gong 2002 Workshop, Local and Global Helioseismology: The Present and Future, ed. H. Sawaya (Noordwijk: ESA), 195
- Trampedach, R. 2001, “3-D simulations of stellar parameters”, in First COROT/MONS/MOST Ground Support Workshop, ed. C. Sterken (Brussels, Belgium: Vrije Universiteit), 59
- Asplund, M., Nordlund, Å., Trampedach, R., & Stein, R. F. 2000a, “Line formation in solar granulation. II. The photospheric Fe abundance”, *A&A*, 359, 743
- Asplund, M., Nordlund, Å., Trampedach, R., Allende Prieto, C., & Stein, R. F. 2000b, “Line formation in solar granulation. I. Fe line shapes, shifts and asymmetries”, *A&A*, 359, 729
- Trampedach, R., Stein, R. F., Christensen-Dalsgaard, J., & Nordlund, Å. 1999, “Stellar evolution with a variable mixing-length parameter”, in ASP Conf. Ser. 173, Theory and tests of convection in stellar structure, eds. Á. Giménez, E. F. Guinan, & B. Montesinos (San Francisco: ASP), 233
- Asplund, M., Trampedach, R., & Nordlund, Å. 1999a, “Confrontation of stellar surface convection simulations with stellar spectroscopy”, in ASP Conf. Ser. 173, Theory and tests of convection in stellar structure, eds. Á. Giménez, E. F. Guinan, & B. Montesinos (San Francisco: ASP), 221
- Asplund, M., Nordlund, Å., Trampedach, R., & Stein, R. F. 1999b, “3D hydrodynamical atmospheres of metal-poor stars. Evidence for a low primordial Li abundance”, *A&A*, 346, L17
- Rosenthal, C. S., Christensen-Dalsgaard, J., Nordlund, Å., Stein, R. F., & Trampedach, R. 1999, “Convective contributions to the frequencies of solar oscillations”, *A&A*, 351, 689

- Trampedach, R., Christensen-Dalsgaard, J., Nordlund, Å., & Stein, R. F. 1998, “Stellar background power spectra from hydrodynamical simulations of stellar atmospheres”, in Workshop on Science with a Small Space Telescope, eds. H. Kjeldsen & T. R. Bedding (Denmark: Aarhus Universitet), 59
- Rosenthal, C. S., Christensen-Dalsgaard, J., Kosovichev, A. G., . . . , Trampedach, R., *et al.* 1998, “Tests of convective frequency effects with SOI/MDI high-degree data”, in SOHO 6/GONG 98 Workshop, Structure and Dynamics of the Interior of the Sun and Sun-like Stars, ed. S. G. Korzennik (Noordwijk: ESA), 123
- Trampedach, R., Christensen-Dalsgaard, J., Nordlund, Å., & Stein, R. F. 1997, “Near-surface constraints on the structure of stellar convection zones”, in Solar Convection and Oscillations and their Relationship, eds. F. P. Pijpers, J. Christensen-Dalsgaard, & C. S. Rosenthal (Dordrecht: Kluwer), 73
- Trampedach, R. 1997, “Convection in stellar atmospheres”, Master’s thesis, Aarhus University, Århus, Denmark
- Nordlund, Å., Spruit, H. C., Ludwig, H.-G., & Trampedach, R. 1997, “Is stellar granulation turbulence?”, *A&A*, 328, 229
- Christensen-Dalsgaard, J., Bedding, T. R., Houdek, G., . . . , Trampedach, R., *et al.* 1995, “Near-surface effects in modeling oscillations of η Boo”, in IAU Coll. 155, ASP Conf. series 83, Astrophysical Applications of Stellar Pulsation, eds. R. S. Stobie & P. A. Whitelock (San Francisco: ASP), 447
- Rosenthal, C. S., Christensen-Dalsgaard, J., Houdek, G., . . . , Trampedach, R., *et al.* 1995b, “Seismology of the solar surface regions”, in 4th Soho Workshop, Helioseismology, eds. J. T. Hoeksema, V. Domingo, B. Fleck, & B. Battrick (Paris: ESA), 459
- Rosenthal, C. S., Christensen-Dalsgaard, J., Nordlund, Å., & Trampedach, R. 1995a, “Convective perturbations to the solar oscillations: The f-mode”, in 4th Soho Workshop, Helioseismology, eds. J. T. Hoeksema, V. Domingo, B. Fleck, & B. Battrick (Paris: ESA), 453