

Publikationsliste

Die vorliegende Liste enthält alle referierten Zeitschriftenartikel, Buchbeiträge, Patente (sowohl beantragt als auch erteilt) sowie populärwissenschaftliche Artikel, jedoch keine Konferenzproceedings.

Zeitschriftenartikel

- (1) D. Hamann, A. Thess 1988
Sound propagation in liquid sodium - gas mixtures, *Kernenergie*, vol. 31, 246-257.
- (2) G. Gerbeth, A. Thess, Ph. Marty 1990
Theoretical study of the MHD flow around a cylinder in crossed electric and magnetic fields, *European J. Mech. B*, vol. 9, 239-257.
- (3) K. Nitschke, A. Thess, G. Gerbeth 1991
Linear stability of Marangoni-Hartmann convection, *Microgravity Sci. Technol.*, vol. IV/2, 160-162.
- (4) A. Thess 1992
Instabilities in two-dimensional spatially periodic flows, Part I - Kolmogorov flow, *Physics of Fluids A*, vol.4 (7), 1385-1395.
- (5) A. Thess 1992
Instabilities in two-dimensional spatially periodic flows, Part II - Square eddy lattice, *Physics of Fluids A*, vol. 4 (7), 1396-1407.
- (6) A. Thess 1993
Instabilities in two-dimensional spatially periodic flows, Part III - Inviscid triangular lattice, *Physics of Fluids A*, vol. 5 (2), 335-343.
- (7) A. Thess 1993
Inviscid instabilities in two-dimensional spatially periodic flows, *Applied Scientific Research*, vol. 51, 79-84.
- (8) A. Thess, J. Sommeria, B. Jüttner 1994
Inertial organization of a two-dimensional turbulent vortex street, *Physics of Fluids A*, vol. 6, 2417-2429.
- (9) A. Thess, S.A. Orszag 1994
Temperature spectrum in surface tension driven Bénard convection, *Phys. Rev. Lett.*, vol. 73 (4), 541-544.
- (10) A. Thess, S.A. Orszag 1995

- Surface tension driven Bénard convection at infinite Prandtl number, *Journal of Fluid Mechanics*, vol. 283, 201-230.
- (11) A. Thess, K. Nitschke 1995
On Bénard-Marangoni instability in the presence of a magnetic field, *Physics of Fluids*, vol. 7 (5), 1176-1178.
- (12) M. Jentschel, A. Thess, U. Bahr 1995
Lyapunov exponents and the merger of point vortex clusters, *Phys. Rev. E*, vol. 51 (5), 5120-5123.
- (13) B. Jüttner, A. Thess, J. Sommeria 1995
On the symmetry of self-organized structures in two-dimensional turbulence, *Phys. of Fluids* vol. 7 (9), 2108-2110.
- (14) K. Nitschke, A. Thess 1995
Secondary instability in surface tension driven Bénard convection, *Phys. Rev. E*, vol. 52, 5772.
- (15) A. Thess, M. Bestehorn 1995
Planform transition in Bénard-Marangoni convection: l-hexagons versus g-hexagons, *Phys. Rev. E*, vol. 52, 6358.
- (16) A. Thess, D. Spirn, B. Jüttner 1995
Viscous flow at infinite Marangoni number, *Phys. Rev. Lett.* vol. 75, 4614-4617.
- (17) A. Thess 1996
Stokes flow at infinite Marangoni number: Exact solutions for the spreading and collapse of a surfactant, *Physica Scripta*, vol. T67, 96-100.
- (18) A. Thess, D. Spirn, B. Jüttner 1997
A two-dimensional model for slow convection at infinite Marangoni number, *J. Fluid Mech*, vol. 331, 283-312.
- (19) B. Jüttner, D. Marteau, P. Tabeling, A. Thess 1997
Numerical simulations of experiments on quasi-two-dimensional turbulence, *Phys. Rev. E*, vol. 55 (5), 5479-5488.
- (20) O. Zikanov, A. Thess, R. Grauer 1997
Statistics of turbulence in a generalized random-force-driven Burgers equation, *Phys. Fluids*, vol. 9, 1362-1367.
- (21) S. Wilson, A. Thess 1997
On the growth rates of long wave modes in Bénard-Marangoni instability, *Phys. Fluids*, vol. 9 (8), 2455-2457.
- (22) Th. Boeck, A. Thess 1997
Inertial Bénard-Marangoni convection, *J. Fluid Mech.*, vol. 350, 149-175.
- (23) A. Thess 1997
Comment on "Instability threshold in the Bénard-Marangoni problem" *Phys. Rev. E*, vol. 56, 4896.
- (24) W. Boos, A. Thess 1997
Thermocapillary flow in a Hele-Shaw cell, *J. Fluid Mech.*, vol. 352, 305-330.

- (25) A. Thess, G. Gerbeth 1998
Magnetohydrodynamik, *Physikalische Blätter*, vol. 2, 125-130.
- (26) Th. Boeck, A. Thess 1998
Turbulent Bénard-Marangoni convection: Results of two-dimensional simulations, *Phys. Rev. Lett.*, vol. 80, 1216-1219.
- (27) A. Kljugin, A. Thess 1998
Direct measurement of the stream function in a quasi-two-dimensional liquid metal flow, *Experiments in Fluids*, vol. 25, 298-304.
- (28) K. Nitschke, M. Bestehorn, A. Thess 1998
Square cells in surface-tension-driven Bénard convection, *J. Fluid Mech*, vol. 356, 155 - 197.
- (29) Th. Boeck, A. Thess 1998
Marangoni-Konvektion in Flüssigmetallen, *Wiss. Zeitschr. der TU Dresden*, vol. 47, 92-94.
- (30) O. Zikanov, A. Thess 1998
Direct numerical simulation of forced homogeneous MHD turbulence at low magnetic Reynolds number, *J. Fluid Mech*, vol. 358, 299-333.
- (31) A. Thess, O. Zikanov, A. Nepomnyashchy 1999
Finite-time singularity in the vortex dynamics of a string, *Phys Rev E*, vol. 59, 3637-3640.
- (32) W. Boos, A. Thess 1999
Cascade of structures in long-wavelength Marangoni instability, *Phys. Fluids*, vol. 11, 1484-1494.
- (33) K. Eckert, A. Thess 1999
Nonbound dislocations in hexagonal patterns: pentagon-lines in surface-tension-driven Bénard convection, *Phys. Rev. E*, vol. 60, 4117-4124.
- (34) Th. Boeck, A. Thess 1999
Bénard-Marangoni convection in low Prandtl number fluids, *J. Fluid Mech*, vol. 399, 251-276.
- (35) A. Thess, W. Boos 1999
A model for Marangoni drying, *Phys. Fluids*, vol. 11, 3852-3855.
- (36) Ch. Karcher, R. Schaller, Th. Boeck, Ch. Metzner, A. Thess 2000
Turbulent heat transfer in liquid iron during electron beam evaporation, *Int J. Heat Mass Transfer*, vol. 43, 1759-1766.
- (37) L. M. Braverman, K. Eckert, A.A. Nepomnyashchy, I.B. Simanovskii, A. Thess 2000
Convection in two-layer systems with anomalous thermocapillary effect, *Phys. Rev E*, vol. 62, 3619-3631.
- (38) O. Zikanov, A. Thess, P.A. Davidson, D.P. Ziegler 2000
A new approach to numerical simulation of melt flows and interface instability in Hall-Herault cells, *Metall. Trans B*, vol. 31B, 1541-1549.
- (39) O. Zikanov, W. Boos, K. Wolke, A. Thess 2001
A model for thermal Marangoni drying, *J. Eng. Math*, vol. 40, 249-267.
- (40) Th. Boeck, A. Thess 2001

- Power-law scaling in Bénard-Marangoni convection at large Prandtl numbers, *Phys Rev E*, vol. 64, 027303-1.
- (41) N. Kurenkova, E. Zienicke, A. Thess 2001
Influence of the thermoelectric effect on the Rayleigh-Benard instability inside a magnetic field, *Phys Rev E*, vol. 64, 036307.
- (42) C. Karcher, Y. Kolesnikov, O. Andreev, A. Thess 2002
Natural convection in a liquid metal heated from above and influenced by a magnetic field, *Eur. J. Mech*, vol. 21 (2002), 75-90.
- (43) O.R. Hofmann, A. Thess 2002
Electromagnetic Control of Glass Melt Flow: A New Branch of Applied Magnetohydrodynamics? (in German), *Glas-Ingenieur*, vol. 1, 39-45.
- (44) Th. Boeck, A. Nepomnyachshy, I. Simanovskii, A. Golovin, L. Braverman, A. Thess 2002,
Three-dimensional convection in a two-layer system with anomalous thermocapillary effect, *Phys. Fluids*, vol. 14, 3899-3911.
- (45) O. Andreev, A. Thess, C. Haberstroh 2003
Visualization of Magnetoconvection, *Phys. Fluids*, vol. 15 (12), 3886-3889.
- (46) C. Resagk, R. du Puits, A. Thess 2003
Error estimation of LDA measurements in fluids with spatial inhomogenities of the refractive index, *Experiments in Fluids*, vol. 35, 357-363.
- (47) E. Zienicke, A. Thess, A. Krätzschar, P. Terhoeven 2003
A shallow water model for the instability of a liquid metal jet crossed by an axial electrical current, *Magnetohydrodynamics*, vol. 39 (3), 237-244.
- (48) O. Zikanov, A. Thess 2004
Direct numerical simulation as a tool for understanding MHD liquid metal turbulence, *Appl. Math. Modelling*, vol. 28, 1-13.
- (49) D. Krasnov, E. Zienicke, O. Zikanov, A. Thess, T. Boeck 2004
Numerical study of the instability of the Hartmann layer, *J. Fluid Mech.*, vol. 504, 183-211.
- (50) A. Kurenkov, A. Thess, O. Zikanov, M. Segatz, C. Droste, D. Vogelsang 2004
Stability of aluminum reduction cells with mean flow, *Magnetohydrodynamics*, vol. 40 (2), 203-212.
- (51) D. Hülsenberg, B. Halbedel, G. Conrad, A. Thess, Y. Kolesnikov, U. Lüdtke 2004
Electromagnetic stirring of glass melts using Lorentz forces - experimental results, *Glass Sci. Technol.*, vol. 77, 186-193.
- (52) A. Thess, Y. Kolesnikov, T. Boeck, P. Terhoeven, A. Krätzschar 2005
The H-trough: a model for liquid metal electric current limiters, *J. Fluid Mech.*, vol. 527, 67-84.
- (53) A. Thess, C. Giessler, C. Sievert, D. Hülsenberg, B. Halbedel, U. Lüdtke 2005
A model for electromagnetic control of buoyancy driven convection in glass melts, *Fluid Dyn. Mat. Proc.*, vol. 1, 247-244.
- (54) A. Thess, E. Votyakov, Y. Kolesnikov 2006
Lorentz Force Velocimetry, *Phys. Rev Lett.*, vol. 96, 164501.

- (55) T. Boeck, A. Thess, P. Terhoeven 2006
A Simple Model for Liquid Metal Electric Current Limiters, *Phys. Fluids*, vol. 18, 058103.
- (56) O. Andreev, Y. Kolesnikov, A. Thess 2006
Experimental study of liquid metal channel flow under the influence of a non-uniform magnetic field, *Phys. Fluids*, vol. 18, 065108.
- (57) O. Kurenkov, A. Thess, H. Babovsky 2006
Reconstruction of interfaces between electrically conducting fluids from electrical potential measurements, *Fluid Dyn. Mat. Proc.*, vol. 2, 47-58.
- (58) C. Resagk, R. du Puits, A. Thess, S. Großmann, F. Dolzhansky, F. Fontenele-Araujo, D. Lohse 2006, Oscillations of the large scale wind in turbulent thermal convection, *Phys. Fluids*, vol. 18, 095105.
- (59) R. du Puits, C. Resagk, A. Thess 2007
Breakdown of the wind in turbulent thermal convection, *Phys. Rev. E*, vol. 75, 016302.
- (60) R. du Puits, C. Resagk, A. Tilgner, F. Busse, A. Thess 2007
Structure of thermal boundary layers in turbulent Rayleigh-Bénard convection, *J. Fluid Mech.*, vol. 572, 231-254
- (61) E. Votyakov, Y. Kolesnikov, O. Andreev, E. Zienicke, A. Thess 2007
Structure of the wake of a magnetic obstacle, *Phys. Rev. Lett*, vol. 98, 144504.
- (62) C. Giessler, A. Thess, U. Lange 2007
Nonlinear laminar pipe flow of fluids with strongly temperature-dependent material properties, *Phys. Fluids*, vol. 19, 043601.
- (63) A. Thess, D. Krasnov, T. Boeck, E. Zienicke, O. Zikanov, P. Moresco, T. Alboussière 2007
Transition to turbulence in the Hartmann boundary layer, *GAMM-Mitteilungen*, vol. 30 No. 1, 125-132.
- (64) A. Thess, O. Zikanov 2007
Transition from two-dimensional to three-dimensional MHD turbulence, *J. Fluid Mech.*, vol. 579, 283-412.
- (65) A. Maystrenko, C. Resagk, A. Thess 2007
Structure of the thermal boundary layer for turbulent Rayleigh-Bénard convection of air in a long rectangular enclosure, *Phys. Rev. E*, vol. 75, 066303.
- (66) A. Thess, E. Votyakov, B. Knaepen, O. Zikanov 2007
Theory of the Lorentz force flowmeter, *New J. Phys.*, vol. 9, 299, 1-27.
- (67) R. du Puits, C. Resagk, A. Thess 2007
Mean velocity profile in confined turbulent convection, *Phys. Rev. Lett*, vol. 99, 34504.
- (68) U. Krieger, B. Halbedel, D. Hülsenberg, A. Thess 2008
Electromagnetic effects on glass melt flow in crucibles, *Eur. J. Glass Sci. Technol. A*, vol. 49 (1), 33-40.
- (69) A. Thess 2008
Comment on "Oblique axisymmetric stagnation flows in magnetohydrodynamics" by Amaouche *et al.* [*Phys. Fluids*, vol. 19, 114106, 2007], *Phys. Fluids*, vol. 20, 069102.
- (70) A. Ebert, C. Resagk, A. Thess 2008

- Experimental study of temperature distribution and local heat flux for turbulent Rayleigh-Bénard convection of air in a long rectangular enclosure, *Int. J. Heat Mass Transfer*, vol. 51, 4238-4248.
- (71) R. Schlegel, C. Giessler, A. Thess 2008
Numerical investigation of the flow of a glass melt through a long circular pipe, *Int. J. Heat Fluid Flow*, vol. 28, 1462-1468.
- (72) T. Boeck, D. Krasnov, A. Thess, O. Zikanov 2008
Large-scale intermittency of liquid-metal channel flow in a magnetic field, *Phys. Rev. Lett.*, vol. 101, 244501.
- (73) C. Giessler, A. Thess 2009
Electromagnetic control of thermal convection of a fluid with strongly temperature-dependent material properties, *J. Fluid Mech.*, vol. 618, 136-154.
- (74) C. Giessler, A. Thess 2009
Numerical simulation of electromagnetically controlled thermal convection of glass melt in a crucible, *Int. J. Heat Mass Transf.*, vol. 52, 3373–3389.
- (75) O. Shishkina, A. Thess 2009
Mean temperature profiles in turbulent Rayleigh–Bénard convection of water, *J. Fluid Mech.*, vol. 633, 449-460.
- (76) F. Gauthier, J. Salort, O. Bourgeois, J.-L. Garden, R. du Puits, A. Thess, P.-E. Roche, 2009,
Transition on local temperature fluctuations in highly turbulent convection, *Europhys. Lett*, vol. 87, 44006.
- (77) R. du Puits, C. Resagk, A. Thess 2009
Structure of viscous boundary layer in confined turbulent convection, *Phys. Rev. E*, vol. 80, 036318.
- (78) O. Andreev, Y. Kolesnikov, A. Thess 2009
Application of the ultrasonic velocity profile method to the mapping of liquid metal flows under the influence of a non-uniform magnetic field, *Exp. Fluids*, vol. 46, 77-83.
- (79) S. Gopalakrishnan, A. Thess, G. Weidmann, U. Lange 2010
Chaotic mixing in a Joule heated glass melt, *Phys. Fluids*, vol. 22, 013101.
- (80) R. du Puits, C. Resagk, A. Thess 2010
Thickness of the diffusive sublayer in turbulent convection, *Phys. Rev. E.*, vol. 81, 016307.
- (81) A. Thess 2010
Comment on "Primary instability mechanisms on the magnetohydrodynamic boundary layer flow over a rotating disk subject to a uniform radial flow" by M. Turkyilmazoglu [Phys. Fluids 21 (2009) 074103], *Phys. Fluids*, vol. 22, 029102.
- (82) R. du Puits, C. Resagk, A. Thess 2010
Measurements of the instantaneous local heat flux in turbulent Rayleigh-Bénard convection, *New J. Phys.*, vol. 12, 075023.
- (83) S. Gopalakrishnan, A. Thess 2010
Chaotic mixing in electromagnetically controlled thermal convection of glass melt
Chem. Eng. Sci., vol. 65, 5309-5319.

- (84) O. Andreev, A. Pothérat, A. Thess 2010
 Generation of liquid metal structures of high aspect ratio by application of an AC magnetic field, *J. Appl. Phys.*, vol. 107, 124903.
- (85) S. Gopalakrishnan, A. Thess 2010
 Electromagnetically induced chaotic mixing in a pipe mixer, *Chem. Eng. Sci.*, vol. 65, 6282-6291.
- (86) A. Viré, B. Knaepen, A. Thess 2010
 Lorentz force velocimetry based on time-of-flight measurements, *Phys. Fluids*, vol. 22, 125101.
- (87) V. Minchenya, C. Karcher, Y. Kolesnikov, A. Thess 2011
 Calibration of the Lorentz force flowmeter, *Flow Meas. Instr.*, vol. 22, 242-247.
- (88) Y. Kolesnikov, C. Karcher, A. Thess 2011
 Lorentz force flowmeter for liquid aluminum: laboratory experiments and plant tests, *Metall. Mat. Trans. B*, vol. 42B, 241-250.
- (89) M. Kirpo, S. Tympel, T. Boeck, D. Krasnov, A. Thess 2011
 Electromagnetic drag on a magnetic dipole near a translating conducting bar, *J. Appl. Phys.*, vol. 109, 113921.
- (90) X. Wang, R. Klein, Y. Kolesnikov, A. Thess 2011
 Application of Lorentz force velocimetry to open channel flow, *Materials Science Forum*, vol. 690, 99-102.
- (91) C. Stelian, A. Alferenok, U. Lüdtke, Y. Kolesnikov, A. Thess 2011
 Optimization of a Lorentz force flowmeter using numerical simulation, *Magnetohydrodynamics*, vol. 47(3), 273-282.
- (92) X. Wang, Y. Kolesnikov, A. Thess 2012
 Numerical calibration of a Lorentz force flowmeter, *Meas. Sci. Tech.*, vol. 23, 045005.
- (93) A. Wegfrass, C. Diethold, M. Werner, T. Fröhlich, B. Halbedel, F. Hilbrunner, C. Resagk, A. Thess, 2012
 A universal noncontact flowmeter for liquids, *Appl. Phys. Lett.*, vol. 100, 194103.
- (94) R. Uhlig, M. Zec, M. Ziolkowski, H. Brauer, A. Thess, 2012
 Lorentz force sismometry: A contactless method for electrical conductivity measurements, *J. Appl. Phys.*, vol. 111, 094914.
- (95) S. Gopalakrishnan, A. Thess, 2012
 A simplified mathematical model of glass melt convection in a cold crucible induction melter, *Int. J. Thermal Sci.*, vol. 60, 142-152.
- (96) A. Wegfrass, C. Diethold, M. Werner, C. Resagk, T. Fröhlich, B. Halbedel, A. Thess, 2012
 Flow rate measurement of weakly conducting fluids using Lorentz force velocimetry, *Meas. Sci. Tech.*, vol. 23, 105307.
- (97) E. Votyakov, A. Thess 2012
 Interaction of a magnetic dipole with a slowly moving electrically conducting plate, *J. Eng. Math.*, vol. 77, 147-161.
- (98) L. Li, N. Shi, R. du Puits, C. Resagk, J. Schumacher, A. Thess 2012

- Boundary layer analysis in turbulent Rayleigh-Bénard convection in air: Experiment versus simulation, *Phys. Rev. E*, vol. 86, 026315.
- (99) R. Uhlig, M. Zec, H. Brauer, A. Thess 2012
Lorentz force eddy current testing: a prototype model, *J. Nondestruct. Eval.*, vol. 31, 357-72.
- (100) M. Mishra, A. Thess, A. De Wit 2012
Influence of a simple magnetic bar on buoyancy-driven fingering of traveling autocatalytic reaction fronts, *Phys. Fluids*, vol. 24, 124101.
- (101) C. Heinicke, S. Tympel, G. Pulugundla, I. Rahneberg, T. Boeck, A. Thess 2012
Interaction of a small permanent magnet with a liquid metal duct flow, *J. Appl. Phys.*, vol. 112, 124914.
- (102) S. Moldenhauer, A. Thess, C. Holtmann, C. Fernández-Aballí 2013
Thermodynamic analysis of a pulse tube engine, *Energy Conversion and Management*, vol. 65, 810-818.
- (103) M. Körner, O. Shishkina, C. Wagner, A. Thess 2013
Properties of large-scale flow structures in an isothermal ventilated room, *Building and Environment*, vol. 59, 563-574.
- (104) R. du Puits, C. Resagk, A. Thess 2013
Thermal boundary layers in turbulent Rayleigh-Bénard convection at aspect ratios between 1 and 9, *New J. Phys.*, vol. 15, 013040.
- (105) D. Krasnov, A. Thess, T. Boeck, Y. Zhao, O. Zikanov 2013
Patterned turbulence in liquid metal flow: computational reconstruction of the Hartmann experiment, *Phys. Rev. Lett.*, vol. 110, 084501.
- (106) O. Andreev, Y. Kolesnikov, A. Thess 2013
Visualization of the Ludford column, *J. Fluid Mech.*, vol. 721, 438-453.
- (107) G. Pulugundla, C. Heinicke, C. Karcher, A. Thess 2013
Lorentz force velocimetry with a small permanent magnet, *Europ. J. Mech B (Fluids)*, vol. 41, 23-28.
- (108) A. Thess, T. Boeck 2013
Electromagnetic drag on a magnetic dipole interacting with a moving electrically conducting sphere, *IEEE Transactions on Magnetics*, vol. 49 (6), 2847-2857.
- (109) C. Heinicke, A. Thess 2013
Electromagnetic force on a magnetic dipole inside an annular pipe flow, *Phys. Fluids*, vol. 25, 097102.
- (110) B. Halbedel, C. Resagk, A. Wegfrass, C. Diethold, M. Werner, F. Hilbrunner, A. Thess 2013, A novel contactless flow rate measurement device for weakly conducting fluids based on Lorentz force velocimetry, *Flow Turbulence Combust.*, DOI 10.1007/s10494-013-9505-5.
- (111) A. Thess 2013
Thermodynamic efficiency of pumped heat electricity storage, *Phys. Rev. Lett.*, vol. 111, 110602.
- (112) Y. Yu, B.W. Li, A. Thess 2013

- The effect of a uniform magnetic field on vortex breakdown in a cylinder with rotating upper lid, *Computers & Fluids*, vol. 88, 510–523.
- (113) R. du Puits, L. Li, C. Resagk, A. Thess 2014
Turbulent Boundary Layer in High Rayleigh Number Convection in Air, *Phys. Rev. Lett.*, vol.112, 124301.
- (114) O. Zikanov, D. Krasnov, Y. Li, T. Boeck, A. Thess 2014
Patterned turbulence in spatially evolving magnetohydrodynamic duct and pipe flows, *Theor. Comput. Fluid Dyn.*, vol. 28, 319-334.
- (115) O. Zikanov, D. Krasnov, T. Boeck, A. Thess, M. Rossi 2014
Laminar-Turbulent Transition in Magnetohydrodynamic Duct, Pipe, and Channel Flows, *Applied Mechanics Reviews ASME*, vol. 66, 030802.
- (116) F. Samsami, Y. Kolesnikov, A. Thess 2014
Vortex dynamics in the wake of a magnetic obstacle, *Journal of Visualization*, DOI 10.1007/s12650-014-0204-7
- (117) T. Boeck, M. Zec, A. Thess 2014
Electromagnetic drag on a magnetic dipole caused by a translating and rotating conducting cylinder, *Journal of Engineering Mathematics*, vol. 88, 177-195
DOI 10.1007/s10665-013-9683-0
- (118) C. Weidemann, I. Sokolov, A. Thess 2014
Lorentz Force and Joule Heat Induced in an Electrically Conducting Plate Moving With Time-Dependent Velocity Under the Influence of a Homogeneous Magnetic Field, *IEEE Transactions on Magnetics*, vol.50, no.8, 1-9.
DOI: 10.1109/TMAG.2014.2309938
- (119) I. Sokolov, Y. Kolesnikov, A. Thess 2014
Experimental investigation of the transient phase of the Lorentz force response to the time-dependent velocity at finite magnetic Reynolds number, *Measurement Science and Technology*, 125304.
DOI:10.1088/0957-0233/25/12/125304
- (120) C. Stelian, Y. Yu, B.W. Li, A. Thess 2014
Influence of velocity profile on calibration function of Lorentz force flowmeter, *Applied Mathematics and Mechanics*, vol. 35 (8), 993-1004.
- (121) F. Santara, A. Thess 2015
Electromagnetic force on a current-carrying coil interacting with a moving electrically conducting cylinder, *Journal of Engineering Mathematics*, vol. 90, no. 1, 37-49.
DOI: 10.1007/s10665-014-9726-1
- (122) S. Alkhalil, Y. Kolesnikov, A. Thess 2015
Lorentz force sismometry: A novel technique for measuring the electrical conductivity of solid and liquid metals, *Measurement Science and Technology*, 115605
DOI: 10.1088/0957-0233/26/11/115605
- (123) M. Schreiber, M. S. Emran, T. Fröhlich, J. Schumacher, A. Thess, 2015
Quantification of free convection effects on 1 kg mass standards, *Metrologia*, vol. 52, 835–841.

- (124) X. Wang, A. Thess, R. Moreau, Y. Tan, S. Dai, Z. Tao, W. Yang, B. Wang 2016
 Lorentz force particle analyzer, *Journal of Applied Physics* 120, 014903
 DOI: 10.1063/1.4956842

Bücher und Beiträge in Büchern

- (1) P.A. Davidson, A. Thess (Herausgeber) 2002
 CISM Courses and Lectures No. 418, Magnetohydrodynamics, Springer Wien New York, ISBN 3-211-83686-1.
- (2) K. Eckert, A. Thess 2006
 Secondary instabilities in surface-tension-driven Bénard-Marangoni convection, in: "Dynamics of spatio-temporal cellular structures" eds.: I. Mutabazi, J. E. Wesfreid, E. Guyon, Springer Tracts in Modern Physics vol 207, pp. 163-176.
- (3) A. Thess 2007
 Das Entropieprinzip - Thermodynamik für Unzufriedene, Oldenbourg-Verlag, ISBN 978-3-486-58428-8.
- (4) A. Thess 2011
 The Entropy Principle – Thermodynamics for the Unsatisfied, Springer-Verlag Berlin Heidelberg, ISBN 978-3-642-13348-0.
- (5) O. Zikanov, D. Krasnov, Y. Li, T. Boeck, A. Thess 2013
 Theoretical and Computational Fluid Dynamics,

Patente

- (1) D. Lampe, A. Thess 1996,
 DE 196 35 343 A1, Vorrichtung zur gesteuerten Übertragung von Drehmomenten.
- (2) D. Lampe, A. Thess 1998,
 DE 197 08 399 A1, Magnetorheologische Kupplung mit Abdichtung für die magnetorheologische Flüssigkeit.
- (3) F. Stefani, S. Eckert, G. Gerbeth, A. Cramer, A. Thess 2001,
 DE 199 22 311 C2, Verfahren und Anordnung zur Bestimmung der räumlichen Geschwindigkeitsverteilung in elektrisch leitfähigen Flüssigkeiten.
- (4) T. Freyermuth, P. Terhoeven, A. Krätzschar, A. Thess, Th. Boeck 2004,
 DE 102 43 993 B3, Selbsterholende Strombegrenzungseinrichtung mit Flüssigmetall.
- (5) A. Thess, Y. Kolesnikov, C. Karcher 2005,

- DE 10 2005 046 910 B4, Verfahren und Anordnung zur berührungslosen Inspektion bewegter elektrisch leitfähiger Substanzen.
- (6) A. Thess, C. Wagner 2008
DE 10 2006 009 646.B4, Verfahren und Anordnung zur Nachbildung einer Raumluftrömung.
- (7) Ch. Kunert, A. Langsdorf, F. Lentes, K. Buch, Y. Kolesnikov, A. Thess 2008,
DE 10 2004 015 055 B4, US 2005/0252243 A1, JP 2005-87446, Verfahren und Anordnung zur Zufuhr einer Glasschmelze zu einem Verarbeitungsprozess.
- (8) C. Karcher, Y. Kolesnikov, A. Thess 2008
DE 10 2007 038 635 B3, Anordnung und Verfahren zum Dosieren elektrisch leitfähiger Substanzen.
- (9) A. Thess, D. Schulze, J. Bühl, A. Nilius 2009
DE 10 2009 006 784 A1, Hochtemperatur-Latentwärmespeicher.
- (10) A. Thess, V. Minchenya, C. Karcher, Y. Kolesnikov, B. Knaepen, A. Vire 2009
DE 10 2009 036 703 A1, Vorrichtung und Verfahren zur Messung der Bewegungsgeschwindigkeit bewegter elektrisch leitfähiger Substanzen.
- (11) A. Thess 2011
DE 10 2011 111 963.2, Verfahren zum Bereitstellen elektrischer Energie sowie eine Vorrichtung zum Bereitstellen elektrischer Energie.
- (12) T. Fröhlich, A. Thess 2011
DE 10 2011 114 506.4, Verfahren und Vorrichtung zur berührungslosen Messung eines Massen- und Volumenstromes eines elektrisch leitfähigen Fluids.
- (13) A. Thess, D. Schulze, J. Hartmann 2011
DE 10 2011 121 048.6, Hochtemperatur-Latentwärmespeicherelement, Verfahren zur Herstellung eines solchen sowie Verfahren zum Speichern von Wärmeenergie.
- (14) M. Zec, R. Uhlig, M. Ziolkowski, H. Brauer, A. Thess
DE 10 2011 056 650.3, Verfahren und Anordnung zur Bestimmung der elektrischen Leitfähigkeit eines Werkstoffes.
- (15) A. Thess, S. Moldenhauer, T. Stark 2012
DE 10 2012 002 440 B4, Vorrichtung und Verfahren zur Erzeugung eines heißen Luftstroms.
- (16) A. Thess, W. Lachenmeier 2012
DE 10 2012 019 971.8, Kugelumlauf-Wärmespeicher.
- (17) A. Thess, X. Wang, T. Fröhlich 2013
DE 10 2013 006 182.2, Vorrichtung und Verfahren zur Detektion von Partikeln in Flüssigmetallen.
- (18) T. Fröhlich, A. Thess 2013
DE 10 2013 012 616 B4, Verfahren und Vorrichtung zur berührungslosen Messung des Massen- oder Volumenstromes eines elektrisch leitfähigen Fluids.
- (19) H. Scherzberg, S. Kaps, F. Wuttke, A. Thess 2013
DE 20 2013 006 814.2, Speichersystem und Verfahren zur Speicherung und Verwertung temporärer elektrischer Energieüberschüsse.
- (20) A. Thess, X. Wang 2013

DE 10 2013 018 318.9, Verfahren und Einrichtung zur Detektion von Defekten in Metalldrähten.

(21) A. Thess, Y. Kolesnikov, C. Heinicke 2014

DE 10 2014 005 430.6, Verfahren und Vorrichtung zur berührungslosen Ermittlung der elektrischen Leitfähigkeit einer elektrisch leitfähigen Substanz.

Populärwissenschaftliche Veröffentlichungen und Publizistik

(1) A. Thess 2003,

Einfach aber wirksam: Leistungsmotivation an chinesischen Universitäten, *Forschung und Lehre*, vol. 10, 549-550.

(2) U. Krieger, D. Hülsenberg, B. Halbedel, U. Lüdtke, A. Thess 2004,

Homogenisieren von Glasschmelzen durch elektromagnetisches Rühren, *Glas-Ingenieur* 6, 57-61.

(3) A. Thess, 2007

Forschung und Lehre am Fachgebiet Thermo- und Magnetfluiddynamik der TU Ilmenau, *Elektrowärme International*, vol. 4, pp. 252-254.

(4) A. Thess 2008

Was ist Entropie? Eine Antwort für Unzufriedene, *Forschung im Ingenieurwesen*, vol. 72, pp. 11-17.

(5) H.J. Odenthal, C.H. Rexroth, M. Sommerfeld, A. Ludwig, E. Baake, A. Thess 2009

Verbesserte metallurgische Prozesse durch moderne Simulationstechnik, *Stahl und Eisen*, vol. 129, 37-46.

(6) A. Thess 2010

Rettet die Wandtafel! – Warum Entschleunigung der Lehre gut tut, *Forschung und Lehre*, vol. 10, 738-739.

(7) A. Thess 2010

Rettet die Wandtafel! – Ein Plädoyer für die Langsamkeit, *Physik Journal*, vol. 9 (12), 3.

(8) A. Thess 2010

Pizza „Newton“, *Thüringer Allgemeine Zeitung*, 30. November.

(9) R. Klein, C. Weidemann, X. Wang, M. Gramss, A. Alferenok, A. Thieme, C. Karcher, A. Thess 2012

Lorentzkraft-Anemometrie für die berührungslose Durchflussmessung von Metallschmelzen, *Technisches Messen*, vol. 9, 394-398.

(10) A. Wegfrass, C. Diethold, M. Werner, A. Alferenok, C. Resagk, T. Fröhlich, B. Halbedel, U. Lüdtke, A. Thess 2012

Lorentzkraft-Anemometrie für die berührungslose Durchflussmessung von Elektrolyten, *Technisches Messen*, vol. 9, 399-402.

(11) A. Thess 2013

Die Donnerstagsfrage – Wie Studenten bei einer Energiewahl abstimmen, *Forschung und Lehre*, vol. 2, 124-125.

(12) A. Thess 2013

Manche mögen's heiss: Strömungsmessung in der Metallurgie, *GAMM-Rundbrief*, vol. 1, 6-10.

(13) A. Thess 2013

Bundestag vollzog eine Rolle rückwärts: Ein Gastkommentar zur Aufhebung des Nachtspeicherofen-Verbotes, *Thüringer Allgemeine Zeitung* vom 22. Mai 2013.

(14) A. Thess 2013

Magnetfeldlinien als Tasthaare: Berührungslose Durchflussmessung für Lebensmittel und Chemikalien, *Chemie&More*, vol. 3-13, 31-33.

(15) A. Thess 2014

Freie Energie!, *Physik Journal*, August/September.

(16) A. Thess 2014

Das Promotionsverfahren als Hängepartie: Ein Plädoyer für mehr Aufmerksamkeit, *Forschung und Lehre*, Oktober, 816-819.

(17) A. Thess, F. Trieb, A. Wörner, S. Zunft 2015

Herausforderung Wärmespeicher, *Physik Journal 14*, 2, 33-39.

(18) A. Thess 2015

Luftkurort Stuttgart -Warum Batterieforschung noch viel Potenzial hat, *DLRmagazin 147*, 19.

(19) A. Thess 2016

Wüstenstrom? Kommt noch! *Magazin ZEIT Wissen*, Nr. 1/2016, 12.

(20) A. Thess, R.-U. Dietrich, A. Wörner, D. König, Th. Pregger 2016

Synthetische Treibstoffe für nachhaltiges Fliegen, *DGLR Luft- & Raumfahrt 2*, 20-23

(21) A. Thess 2016

Die Welt der Energie wird deutlich bunter, *bild der wissenschaft, Themenheft Energiespeicher 2016*