

## List of publications - Prof. Jürgen Janek (July 2013)

### Remarks:

Publications without peer review are listed separately at the end of this document.

The sequence of authors to a publication corresponds to their individual contribution. In the case of experimental studies usually a graduate student or Post-Doc is the first author, according to the major experimental contribution. In the case of theoretical or review papers this can vary from case to case.

### Patents

- (1) *“Abscheidung von nanoskaligen Metallen, Halbmetallen, und Verbindungen dieser Metalle und/oder Halbmetalle an der Grenzfläche zwischen einer Niedertemperaturentladung und einer ionischen Flüssigkeit“*  
J. Janek, F. Endres, M. Rohnke, S. A. Meiss; Justus-Liebig-University Giessen, German Patent, 21.3.2007, DE2007/000524

*“Deposition of Nanoscale Metals, Semimetals and Compounds of Said Metals and/or Semimetals on the Boundary surface between a Low Temperature discharge and an Ionic Liquid“*

J. Janek, F. Endres, M. Rohnke, S. A. Meiss; Justus-Liebig-University Giessen International Patent, PCTR/DE2007/000524, WO 2007/107152 A2

- (2) *“Method for producing a conductor/non-conductor transition“*  
M. Martin, R. De Souza, D. Samuelis, I. Valov, J. Janek, A. Börger, K. D. Becker, P. C. Schmidt, L. Nagarajan. PCT Int. Appl. (2009), 28 pp; WO 2009121540 A1 20091008

*“Method for producing a conductor/non-conductor transition“*

M. Martin, R. De Souza, D. Samuelis, I. Valov, J. Janek, A. Börger, K. D. Becker, P. C. Schmidt, L. Nagarajan. Ger. Offen. (2009), 11 pp; DE 102008016694 A1 20091001

- (3) *“Gas sensor for determining reactive gases based on the Seebeck effect.“*  
J. Janek, C. Korte, R. Moos, F. Rettig, K. Sahner, U. Roeder-Roith, Ger. Offen. (2010), 9pp. DE 102008045856 A1 20100602

### Academic texts:

- (1) Diploma thesis, Institut für Physikalische Chemie und Elektrochemie, Universität Hannover 1989):  
*Differenzdruckmanometrie angewandt auf Punktdefektreaktionen in Kristallen*
- (1) Dissertation, Universität Hannover 1992:  
*Dynamische Wechselwirkungen bei Transportprozessen in Übergangsmetalloxiden*
- (2) Habilitation thesis, Universität Hannover 1997:  
*Zum Ladungsdurchtritt an Phasengrenzen in Festkörpern*

**Scientific publications (mostly papers in scientific journals with peer review, book chapters and reviews; conference papers are only included if they were peer reviewed)**

- (1) *Cross effect between electronic and ionic flows in semiconducting transition metal oxides*  
H.-I. Yoo, H. Schmalzried, M. Martin and J. Janek  
Z. Phys. Chem. N. F. **168** (1990) 129-142
- (2) *Electrotransport in ionic crystals: I. Application of liquid electrolyte theory*  
J. Janek and M. Martin  
Ber. Bunsenges. Phys. Chemie **98** (1994) 655-664
- (3) *Electrotransport in ionic crystals: II. A dynamical model*  
J. Janek and M. Martin  
Ber. Bunsenges. Phys. Chemie **98** (1994) 665-673
- (4) *Experimental evidence of the interference between ionic and electronic flows in an oxide with prevailing electronic conduction*  
H.-I. Yoo, J.-H. Lee, M. Martin, J. Janek and H. Schmalzried  
Solid State Ionics **67** (1994) 317-322
- (5) *Coupling between ionic and electronic fluxes in mixed ionic/electronic conductors: Experiments on  $\text{Co}_{1-\delta}\text{O}$*   
J. Janek  
Ber. Bunsenges. Phys. Chem. **98** (1994) 1213-1223
- (6) *Investigation of charge transport across the  $\text{Ag}|\alpha\text{-AgI}$ -interface: I. Occurrence of periodic phenomena during anodic dissolution of silver*  
J. Janek and S. Majoni  
Ber. Bunsenges. Phys. Chem. **99** (1995) 14-20
- (7) *Thermal diffusion in crystalline binary compounds with narrow range of homogeneity: I. A new experiment for the determination of the heat of transport*  
J. Janek  
Ber. Bunsenges. Phys. Chem. **99** (1995) 920-931
- (8) *Thermal diffusion in crystalline binary compounds with narrow range of homogeneity: II. Stationary thermal diffusion in  $\beta\text{-Ag}_{2+\delta}\text{S}$*   
J. Janek and C. Korte  
Ber. Bunsenges. Phys. Chem. **99** (1995) 932-939
- (9) *Determination of local potentials in mixed conductors - Two examples*  
C. Rosenkranz and J. Janek  
Solid State Ionics **82** (1995) 95-106
- (10) *Matter transport in temperature gradients - The heat of transport of silver in  $\beta\text{-Ag}_{2+\delta}\text{S}$*   
J. Janek and C. Korte  
Solid State Ionics **85** (1996) 305-311
- (11) *Periodic oscillations at a solid-solid electrode*  
S. Majoni and J. Janek  
Solid State Ionics **85** (1996) 247-250

- (12) *Influence of mechanical pressure on ionic charge transport across the Ag/AgI-interface - Periodic oscillations of interfacial properties*  
 J. Janek and S. Majoni  
 Defects Diff. Forum **129-130** (1996) 243-252  
 (Proc. Workshop Diff. Stresses, Balatonfüred, Hungary)
- (13) *Thermal diffusion in crystalline binary compounds with narrow range of homogeneity - III. Experimental study of the Soret effect in  $\beta$ -Ag<sub>2+ $\delta$</sub> S*  
 C. Korte and J. Janek  
 Ber. Bunsenges. Phys. Chem. **100** (1996) 425-432
- (14) *Cross effect between heat and matter fluxes in mixed conducting solids - Definition of the heats of transport*  
 J. Janek and C. Korte  
 Z. Phys. Chem. **196** (1996) 187-208
- (15) *Study of the Soret effect in mixed conductors by the measurement of ionic and electronic thermopower*  
 J. Janek and C. Korte  
 Solid State Ionics **92** (1996) 193-204
- (16) *Nonisothermal transport properties of  $\alpha$ -Ag<sub>2+ $\delta$</sub> S: Partial thermopowers of electrons and ions, the Soret effect and the heat of transport*  
 C. Korte and J. Janek  
 J. Phys. Chem. Solids **58** (1997) 623-637
- (17) *Plasma-electrochemical growth of AgBr layers on AgCl substrates*  
 J. Janek and C. Rosenkranz  
 J. Phys. Chem. B. **101** (1997) 5909-5912
- (18) *Transport processes in temperature gradients: Thermal diffusion and the Soret effect in crystalline compounds*  
 C. Korte, J. Janek and H. Timm  
 Solid State Ionics **101-103** (1997) 465-470
- (19) *Oscillating reactions at metal electrodes in solid electrolytes*  
 J. Janek  
 Solid State Ionics **101-103** (1997) 721-727
- (20) *Ionic conductivity, partial thermopowers, heats of transport and the Soret effect of  $\alpha$ -Ag<sub>2+ $\delta$</sub> Se - An experimental study*  
 C. Korte and J. Janek  
 Z. Phys. Chem. **206** (1998) 129-163
- (21) *Thermal diffusion and Soret effect in (U,Me)O<sub>2+x</sub> - The heat of transport of oxygen*  
 J. Janek and H. Timm  
 J. Nucl. Mater. **255** (1998) 116-127
- (22) *Investigation of charge transport across the Ag| $\alpha$ -AgI-interface: II. Dilatometric study of the anodic dissolution of silver*  
 S. Majoni and J. Janek  
 Ber. Bunsenges. Phys. Chem. **102** (1998) 756-762

- (23) *Thermal diffusion in mixed conductors*  
J. Janek and C. Korte  
In: Proc. Third Inter. Symp. Ionic and Mixed Conducting Ceramics, Ed.: T. A. Ramarayanan, The Electrochemical Society, Proc. Vol. **97-24** (1998) 304-328
- (24) *Chemical Kinetics of Solid/Solid Interfaces (Aspects and Topics)*  
H. Schmalzried and J. Janek  
Ber. Bunsenges. Phys. Chem. **102** (1998) 127-143
- (25) *Electrochemically induced surface changes on microstructured Pt films on a solid YSZ electrolyte*  
J. Poppe, A. Schaak, J. Janek and R. Imbihl  
Ber. Bunsenges. Phys. Chem. **102** (1998) 1019-1022
- (26) *Electrochemical blackening of yttria-stabilized zirconia - morphological instability of a moving reaction front*  
J. Janek and C. Korte  
Solid State Ionics **116** (1999) 181-195
- (27) *Ionic Thermopower of composite electrolytes. I. Theory*  
M. Vennekamp and J. Janek  
Solid State Ionics **118** (1999) 43-66
- (28) *Oscillatory Kinetics at Solid/Solid Boundaries in ionic crystals*  
J. Janek  
Solid State Ionics **131** (2000) 129-142
- (29) *Spatially resolved measurements of electrochemically induced spillover on porous and microstructured Pt/YSZ catalysts*  
R. Imbihl and J. Janek  
Solid State Ionics **136/137** (2000) 699-705
- (30) *Electrochemical promotion of catalytic CO oxidation on platinum under low pressure conditions*  
S. Völkening, E. Schütz, J. Janek, and R. Imbihl  
Physical Chemistry - Chemical Physics **1** (1999) 5241-5249
- (31) *Photoelectron spectromicroscopy of electrochemically induced oxygen spillover at the Pt/YSZ interface*  
B. Luerßen, S. Günther, H. Marbach, M. Kiskinova, J. Janek and R. Imbihl  
Chem. Phys. Lett. **316** (2000) 331-335
- (32) *Promotion of catalytic reactions by electrochemical polarisation*  
J. Janek, M. Rohnke, B. Luerssen and R. Imbihl  
Physical Chemistry - Chemical Physics **2** (2000) 1935-1941
- (33) *Periodische Phänomene an fest/fest-Phasengrenzen*  
J. Janek  
Nova Acta Leopoldina NF **83** (317) (2000) 175-197
- (34) *Electrocatalysis on Pt/YSZ electrodes*  
B. Luerssen, J. Janek and R. Imbihl  
Solid State Ionics **141-142** (2001) 701-707

- (35) *Plasma-electrochemical growth of ion-conducting AgBr and AgCl*  
M. Vennekamp and J. Janek  
Solid State Ionics **141-142** (2001) 71-80
- (36) *Microspectroscopy at a moving reduction front in zirconia solid electrolyte*  
B. Luerßen, J. Janek, S. Günther, M. Kiskinova and R. Imbihl  
Phys. Chem. Chem. Phys. **4** (2002) 2673-2679
- (37) *Thermodiffusion in ionic solids - Model Experiments and theory*  
J. Janek, C. Korte and A. B. Lidiard  
Review, in: Thermal Nonequilibrium Phenomena in Fluid Mixtures  
W. Köhler and S. Wiegand (eds.), series: Lecture Notes in Physics,  
Springer-Verlag, Berlin 2002, pp. 146-183
- (38) *Positive and negative magnetoresistance in the system silver-selenium*  
G. Beck and J. Janek  
Physica B **308 – 310** (2001) 1086-1089
- (39) *Chemie und Licht – Eine weihnachtliche Experimentalvorlesung*  
B. Albert and J. Janek  
ChiuZ **35**(6) (2001) 390-401
- (40) *Plasma Electrochemistry in RF-discharges: Oxidation of Silver in a Chlorine Plasma*  
M. Vennekamp and J. Janek  
J. Electrochem. Soc. **150**(10) (2003) C723-C729
- (41) *Surface oxygen exchange between yttria-stabilised zirconia and a low-temperature oxygen RF-plasma*  
M. Rohnke, J. Janek, R. Chater, and J. Kilner  
Solid State Ionics **166**/1 – 2 (2004) 89 – 102
- (42) *On the Reactivity of Silver Electrodes in a Chlorine Radiofrequency Plasma – Plasma Oxidation vs. Thermal Oxidation*  
M. Vennekamp and J. Janek  
Z. Anorg. Allg. Chemie **629** (2003) 1851 – 1862
- (43) *Von der Verbrennung zum Herzschlag – Chemische Triebkräfte*  
J. Janek, A. Seibert, J. P. Hofmann und H. Schwertfeger  
Chemie in unserer Zeit **38**(1) (2004) 10 – 23
- (44) *In situ observation of electrode reactions probed by microspectroscopy*  
B. Luerßen, H. Fischer, S. Günther and J. Janek  
In: Solid State Ionics: Science and Technology of Ions in Motion;  
(Eds.) B. V. R. Chowdari, H.-I. Yoo, G. M. Choi and I.-H. Lee.  
Proc. of Asian Conf. Solid State Ionics **9** (2004) 139 – 149
- (45) *Coulometric titration at low temperatures - Nonstoichiometric silver selenide*  
G. Beck and J. Janek  
Solid State Ionics **170**(1/2) (2004) 129 - 133
- (46) *The magnetoresistance of homogeneous and heterogeneous silver-rich silver selenide*  
G. Beck, C. Korte, J. Janek, Fr. Gruhl and M. von Kreutzbruck  
J. Appl. Phys. **96**(10) (2004) 5619 – 5624

- (47) *Magneto resistance Effect in  $\alpha$ -Ag<sub>2+ $\delta$</sub> Se with high silver excess*  
M. von Kreutzbruck, B. Mogwitz, F. Gruhl, C. Korte and J. Janek  
Appl. Phys. Lett. **86** (2005) 072102
- (48) *Controlled electrochemical growth of silver microwires*  
M. Rohnke, T. Best and J. Janek  
J. Solid State Electrochem. **9** (2005) 239 – 243
- (49) *Control of the surface morphology of solid electrolyte films during field-driven growth in a reactive plasma*  
M. Vennekamp and J. Janek  
Phys. Chem. Chem. Phys. **7** (2005) 666 - 677
- (50) *On the Soret effect in binary nonstoichiometric oxides – Kinetic demixing of cuprite in a temperature gradient*  
H. Timm and J. Janek  
Solid State Ionics **176** (2005) 1131 - 1143
- (51) *Nitrogen tracer diffusion in yttria doped zirconium oxinitride*  
M. A. Taylor, M. Kilo, C. Argirusis, G. Borchardt, I. Valov, C. Korte, J. Janek, T. C. Roedel, M. Lerch,  
Diffusion in Materials: DIMAT 2004, Pt. 1 and 2 (Part. 1);  
in: Defect and Diffusion Forum **237-240** (2005) 479-484
- (52) *The magnetoresistance of metal-rich Ag<sub>2+x</sub>Se - A prototype nanoscale metal/semiconductor dispersion?*  
J. Janek, B. Mogwitz, G. Beck, M. v. Kreutzbruck, L. Kienle, C. Korte  
In: *Hybrid Nanostructured Materials and their Applications*, T. Ohashi, S. Sominatac, M. Wada (eds.), Words Publ. House, Kyoto 2005 (ISBN: 4-9902429-0-4)
- (53) *The magnetoresistance of metal-rich Ag<sub>2+x</sub>Se - A prototype nanoscale metal/semiconductor dispersion?*  
J. Janek, B. Mogwitz, G. Beck, M. v. Kreutzbruck, L. Kienle, C. Korte  
Progress in Solid State Chemistry **32** (3-4) (2004) 179-205
- (54) *The influence of non-equilibrium defects on the anodic dissolution of a metal into a solid electrolyte*  
M. Rohnke, C. Rosenkranz, and J. Janek  
Solid State Ionics **177**(5-6) (2006) 447-456
- (55) *In situ imaging of Electrochemical Induced oxygen spillover on Pt/YSZ Catalysts*  
B. Luerßen, E. Mutoro, H. Fischer, S. Günther, R. Imbihl, J. Janek  
Angew. Chem. Int. Ed. **45**(9) (2006) 1473-1476
- (56) *Electrochemical incorporation of nitrogen into zirconia solid electrolyte*  
I. Valov, C. Korte, R. A. De Souza, J. Janek, M. Martin  
Electrochem. Solid State Lett. **9**(5) (2006) F23-F26
- (57) *Reactive Sputter Deposition and metal-semiconductor transition of FeS films*  
G. H. Fu, A. Polity, W. Kriegseis, D. Hasselkamp, B. K. Meyer, B. Mogwitz, J. Janek  
Appl. Phys. A **84** (2006) 309 - 312

- (58) *Cathodic deposition of silver on silver bromide at microelectrodes*  
K. Peppler and J. Janek  
Solid State Ionics, **177** (19-25) (2006) 1643-1648
- (59) *Kinetic studies of the electrochemical nitrogen reduction and incorporation into yttria stabilized zirconia*  
I. Valov and J. Janek  
Solid State Ionics **177** (19-25) (2006) 1619-1624
- (60) *Electrodeposition of metals for micro- and nanostructuring at interfaces between solid, liquid and gaseous conductors: Dendrites, whiskers and nanoparticles*  
K. Peppler, M. Pölleth, S. A. Meiss, and J. Janek  
Z. Phys. Chem. **220** (2006) 1507-1527
- (61) *Electrochemistry in plasmas - The application of gaseous electrodes in materials science*  
M. Rohnke, H. Reinshagen and J. Janek  
Proc. 16<sup>th</sup> Iketani Conference on "Electrochemistry and Thermodynamics of Materials Processing for Sustainable Production/Masuko Symposium", Hrsg.: S. Yamaguchi, Tokyo, Japan, (2006) 599-625
- (62) *Adjustable metal-semiconductor transition of FeS thin films by thermal annealing*  
G. H. Fu, A. Polity, N. Volbers, B. K. Meyer, B. Mogwitz, J. Janek  
Appl. Phys. Lett. **89**(26) (2006) 262113-1/3
- (63) *Plasma-Electrochemical Deposition of Nanoscale Metals and Semiconductors in Ionic Liquids*  
S. A. Meiss, M. Rohnke, L. Kienle, S. Z. El Abedin, F. Endres, and J. Janek  
ChemPhysChem. **8** (2007) 50-53
- (64) *Ionic conductivity and activation energy for oxygen ion transport in superlattices – The multilayer system CSZ (ZrO<sub>2</sub>+CaO)/Al<sub>2</sub>O<sub>3</sub>*  
A. Peters, C. Korte, D. Hesse, N. Zakharov and J. Janek  
Solid State Ionics **178**(1-2) (2007) 67-76
- (65) *Epitaxial Pt(111) thin film electrodes on YSZ(111) and YSZ(100) – Preparation and characterisation*  
G. Beck, H. Fischer, E. Mutoro, V. Srot, K. Petrikowski, E. Tchernychova, M. Wuttig, M. Rühle, B. Luerßen, J. Janek  
Solid State Ionics **178** (2007) 327-337
- (66) *Nondestructive analysis of silver selenide films obtained by pulsed laser deposition (PLD) with micro-XRF*  
M. Azeroual, R. Dargel, B. Mogwitz, J. Janek and C. Vogt  
J. Mater. Sci. **42** (2007) 7375-7380
- (67) *Preparation and magnetoresistance of Ag<sub>2</sub>Se thin films deposited via Pulsed Laser Deposition*  
B. Mogwitz, C. Korte, L. Kienle, M. von Kreutzbruck, J. Janek  
J. Appl. Phys. **101** (2007) 043510
- (68) *Template assisted solid state electrochemical growth of silver micro- and nanowires*  
K. Peppler and J. Janek  
Electrochim. Acta **53**(2) (2007) 319-323

- (69) *Preparation of nitrogen doped YSZ thin films by pulsed laser deposition and their characterisation*  
I. Valov, R. A. De Souza, Ch. Wang, A. Börger, C. Korte, M. Martin, K. D. Becker, J. Janek  
J. Mater. Sci. **42** (2007) 1931-1941
- (70) *Ionic liquids as green electrolytes for electrodeposition of nanomaterials*  
S. Zein El Abedin, M. Pölleth, J. Janek, F. Endres  
Green Chemistry **9**(6) (2007) 549-553
- (71) *In-situ Imaging of Electrode Processes on Solid Electrolytes by Photoelectron Microscopy and Microspectroscopy – The Role of the Three-Phase Boundary*  
J. Janek, B. Luerßen, E. Mutoro, H. Fischer, S. Günther  
Topics in Catalysis **44** (3) (2007) 399-407
- (72) *Nanocarving of titania as a diffusion-driven morphological instability*  
D.-K. Lee and J. Janek  
Adv. Funct. Mater. **18** (2008) 422-431
- (73) *Plasma electrochemistry with ionic liquids*  
J. Janek, M. Rohnke, M. Pölleth, S. A. Meiss,  
In: Electrodeposition from Ionic Liquids (Hrsg.: F. Endres, D. MacFarlane, A. Abbott), Wiley-VCH, Weinheim 2008, 259-285
- (74) *Negative and linear positive magnetoresistance effect in a non-magnetic semiconductor at room temperature*  
G. Beck and J. Janek  
Solid State Sciences **10** (2008) 776-789
- (75) *Highly Non-Stoichiometric Amorphous Gallium Oxide - Prototype Material for a Chemically driven Insulator-Metal Transition*  
N. Lakshmi, R. A. De Souza, D. Samuelis, I. Valov, A. Börger, J. Janek, K. D. Becker, P. C. Schmidt, M. Martin  
Nature Materials **7**(5) (2008) 391-198
- (76) *Phasengrenzen fester Ionenleiter*  
E. Mutoro, B. Luerßen, and J. Janek  
Chemie in unserer Zeit **42** (2008) 80-90
- (77) *Ion-conducting probes for low temperature plasmas*  
S. A. Meiss, M. Rohnke, F. Rettig, R. Moos, and J. Janek  
Contributions to Plasma Physics **48** (5-7) (2008) 473-479
- (78) *Structural, morphological and kinetic properties of model type thin film platinum electrodes on YSZ*  
E. Mutoro, B. Luerßen, S. Günther, J. Janek  
Solid State Ionics **179** (2008) 1214-1218
- (79) *Ionic Conductivity and Activation Energy for Oxygen Ion Transport in Superlattices – The Semicohherent Multilayer System YSZ (ZrO<sub>2</sub> + 9.5 mol% Y<sub>2</sub>O<sub>3</sub>)/Y<sub>2</sub>O<sub>3</sub>*  
C. Korte, A. Peters, D. Hesse, N. Zakharov, and J. Janek  
Physical Chemistry – Chemical Physics **10** (2008) 4623-4635

- (80) *Field driven migration of bipolar metal electrodes on solid electrolytes*  
K. Pepler, C. Reitz, and J. Janek  
Appl. Phys. Lett. **93**(7) (2008) 074104
- (81) *Electrode activation and degradation: Morphology changes of platinum electrodes on YSZ during electrochemical polarisation*  
E. Mutoro, S. Günther, B. Luerßen, I. Valov, J. Janek  
Solid State Ionics **179** (2008) 1835-1848
- (82) *The bridge to redox switches (News & Views)*  
J. Janek  
Nature Materials **8** (2009) 88-89
- (83) *Control of linear magnetoresistance in  $\text{Ag}_{2+x}\text{Se}$  thin films by microstructural design*  
M. von Kreutzbruck, G. Lembke, B. Mogwitz, C. Korte, and J. Janek  
Phys. Rev. B **79** (2009) 035204
- (84) *Thick-film solid electrolyte oxygen sensors using the direct ionic thermoelectric effect*  
U. Röder-Roith, F. Rettig, T. Röder, J. Janek, R. Moos, K. Sahner,  
Sensors and Actuators B **136** (2009) 530-535
- (85) *Defect chemistry of the cage compound,  $\text{Ca}_{12}\text{Al}_{14}\text{O}_{33-\delta}$  —understanding the route from a solid electrolyte to a semiconductor and electride*  
D.-K. Lee, L. Kogel, S. G. Ebbinghaus, I. Valov, H.-D. Wiemhoefer, M. Lerch,  
and J. Janek  
Phys. Chem. Chem. Phys. **11** (2009) 3105-3114
- (86) *Influence of Interface Structure on Mass Transport in Phase Boundaries between different Ionic Materials – Experimental Studies and Formal Considerations*  
C. Korte, N. Schichtel, D. Hesse, and J. Janek  
Chem. Monthly (Monatshefte für Chemie) **140** (2009) 1068-1080
- (87) *Elastic Strain at Interfaces and its Influence on Ionic Conductivity —Theoretical Considerations and Experimental Studies*  
N. Schichtel, C. Korte, D. Hesse, and J. Janek  
Phys. Chem. Chem. Phys. **11** (2009) 3043-3048
- (88) *Influence of Impurities and Electrode Morphology on Cyclic Voltammetry: The model system Platinum on YSZ oxygen electrolyte*  
E. Mutoro, B. Luerßen, S. Günther, and J. Janek  
Solid State Ionics **180** (2009) 1019-1033
- (89) *Ionic and Electronic Conductivity of Nitrogen-doped YSZ Single Crystals*  
I. Valov, V. Rührup, R. Klein, T.-C. Rödel, A. Stork, S. Berendts, M. Dogan,  
H. -D. Wiemhöfer, M. Lerch and J. Janek  
Solid State Ionics **180** (2009) 1463-1470
- (90) *Physical Chemistry of Solids – The Science behind Materials Engineering*  
J. Janek, K. D. Becker, and M. Martin  
Z. Phys. Chem. **223**(10/11) (2009) 1239-1258

- (91) *Ionic Solid Solutions – Mixing in the Solid State Systems, Methods, Models and Applications (Editorial)*  
J. Janek, M. Binnewies, A. Reller  
Progress Solid State Chem. **37** (2009) 55-56
- (92) *Oxide nitrides: From oxides to solids with mobile nitrogen ions*  
M. Lerch, J. Janek, K. D. Becker, S. Berendts, H. Boysen, T. Bredow, R. Dronskowski, S. G. Ebbinghaus, M. Kilo, M. W. Lumey, M. Martin, C. Reimann, E. Schweda, I. Valov, H. D. Wiemhöfer  
Progress Solid State Chem. **37** (2009) 81-131
- (93) *Thermodynamics, structure and kinetics in the system Ga-O-N*  
M. Martin, R. Dronskowski, J. Janek, K.-D. Becker, D. Röhrens, J. Brendt, M. W. Lumey, L. Nagarajan, I. Valov, A. Börger  
Progress Solid State Chem. **37** (2009) 132-152
- (94) *Porous model type electrodes by induced dewetting of thin Pt films on YSZ substrates*  
N. Baumann, E. Mutoro, and J. Janek  
Solid State Ionics **181** (2010) 7-15
- (95) *Plasma Electrochemistry in Ionic Liquids: Deposition of Copper Nanoparticles*  
M. Brettholle, O. Höfft, L. Klarhöfer, S. Mathes, W. Maus-Friedrichs, S. Zein El Abedin, S. Krischok, J. Janek and F. Endres  
Phys. Chem. Chem. Phys. **12** (2010) 1750-1755
- (96) *Mesoporous TiO<sub>2</sub>: Comparison of classical sol-gel and nanoparticle based photoelectrodes for the water splitting reaction*  
P. Hartmann, D.-K. Lee, B. M. Smarsly and J. Janek  
ACS Nano **4**(6) (2010) 3147-3154
- (97) *Realization of high luminous efficacy at low voltages in the plasma display panel with SrO-MgO double layer*  
H. Y. Jung, T. H. Lee, O. Y. Kwon, H. W. Cheong, S. O. Steinmüller, J. Janek, K. W. Whang  
IEEE Electron Devices Letters **31**(7) (2010) 686-688
- (98) *Janus-faced SiO<sub>2</sub>: Activation and Passivation in the Electrode System Pt/YSZ*  
E. Mutoro, N. Baumann, and J. Janek  
J. Phys. Chem. Lett. **1** (2010) 2322-2326
- (99) *Thermoelectric Measurements on Sputtered ZnO/ZnS Multilayers*  
G. Homm, M. Piechotka, A. Kronenberger, A. Laufer, F. Gather, D. Hartung, C. Heiliger, B. K. Meyer, P. J. Klar, S. O. Steinmüller, and J. Janek  
J. Electronic Mater. **39**(9) (2010) 1504-1509
- (100) *Microstructure and Magnetoresistance of heterogeneous gold-rich Ag<sub>3</sub>Au<sub>1,1</sub>Te<sub>2</sub>*  
L. Kienle, V. Duppel, G. Lembke, B. Mogwitz, J. Janek, M. v. Kreutzbruck, A. Simon  
Solid State Sciences **12**(10) (2010) 1770-1778

- (101) *In-CuInS<sub>2</sub> nanocomposite film prepared by Pulsed Laser Deposition using a single source precursor*  
W. Bensch, E. Quiroga-González, L. Kienle, V. Duppel, D. K. Lee, J. Janek  
Solid State Sciences **12** (2010) 1953-1959
- (102) *Electrochemical promotion of Pt(111)/YSZ(111) and Pt-FeO<sub>x</sub>/YSZ(111) thin catalyst films: Electrocatalytic, catalytic and morphological studies*  
E. Mutoro, C. Koudsodontis, B. Luerßen, C. G. Vayenas, J. Janek  
Appl. Catal. B: Environmental **100** (2010) 328
- (103) *On the Influence of Strain on Ion Transport: Microstructure and Ionic Conductivity of Nanoscale YSZ/Sc<sub>2</sub>O<sub>3</sub> Multilayers*  
N. Schichtel, C. Korte, D. Hesse, N. Zakharov, B. Butz, D. Gerthsen, and J. Janek  
Phys. Chem. Chem. Phys. **12** (2010) 14596-14608
- (104) *Characterization of chemical composition and electronic structure of Pt/YSZ interfaces by analytical transmission electron microscopy*  
V. Srot, M. Watanabe, C. Scheu, P. A. van Aken, U. Salzberger, B. Luerßen, J. Janek, M. Rühle  
Solid State Ionics **181** (2010) 1616-1622
- (105) *A New Heterogeneous Photocathode Based on Ruthenium(II)quaterpyridinium Complexes at TiO<sub>2</sub> Particles*  
N. Baumann, P. S. Gamage, T. N. Samarakoon, J. Hodgson, J. Janek, and S. H. Bossmann  
J. Phys. Chem. C **114** (2010) 22763-22772.
- (106) *Defect Chemistry of the Mixed Conducting Cage Compound Ca<sub>12</sub>Al<sub>14</sub>O<sub>33</sub>*  
J. Janek and D. K. Lee  
J. Korean Ceram. Soc. **47**(2) (2010) 99-105
- (107) *An EMF Cell with a Nitrogen Solid Electrolyte – On the Transference of Nitrogen Ions in Yttria-stabilized Zirconia*  
D. K. Lee, C. C. Fischer, I. Valov, J. Reinacher, A. Stork, M. Lerch, and J. Janek  
Phys. Chem. Chem. Phys. **13** (2011) 1239-1242
- (108) *Electrochemical activation of dinitrogen at Iridium/zirconia solid electrolyte interfaces*  
I. Valov, B. Luerssen, E. Mutoro, L. Gregoratti, R. A. De Souza, S. Günther, A. Barinov, P. Dudin, M. Martin, and J. Janek  
Phys. Chem. Chem. Phys. **13** (2011) 3394-3410
- (109) *Plasma Electrochemistry in 1-Butyl-3-methylimidazolium dicyanamide: Copper nanoparticles from CuCl and CuCl<sub>2</sub>*  
N. Kulbe, O. Höfft, A. Ulbrich, S. Zein El Abedin, S. Krischok, J. Janek, M. Pölleth and F. Endres  
Plasma Process. Polym. **8** (2011) 32-37
- (110) *Mesoporous tin-doped indium oxide thin films: Effect of mesostructure on electrical conductivity*  
T. von Graberg, P. Hartmann, A. Rein, S. Gross, B. Seelandt, C. Röger, R. Zieba, A. Traut, M. Wark, J. Janek and B. M. Smarsly  
Sci. Technol. Adv. Mater. **12** (2011) 025005

- (111) *The Potential of In-situ Scanning Electron Microscopy – Investigation of Thin Film Pt(O<sub>2</sub>)/YSZ Model Electrodes*  
H. Pöpke, E. Mutoro, B. Luerßen, J. Janek  
Solid State Ionics **189** (2011) 56-62
- (112) *Microstructure of Platinum Films on YSZ Prepared by Pulsed Laser Deposition*  
G. Beck, H. Pöpke, B. Luerßen and J. Janek  
J. Crystal Growth **322** (2011) 95-102
- (113) *Synthesis-real structure-property: The showcase of silver-rich Ag<sub>2</sub>Se*  
L. Kienle, V. Duppel, B. Mogwitz, J. Janek, M. v. Kreutzbruck,  
A. Leineweber, A. Simon  
Crystal Growth Des. **11** (2011) 2412-2421
- (114) *A biomimetic principle for the chemical modification of metal surfaces: Synthesis of tripod scaffolds as analogs of siderophores and mussel adhesion proteins*  
E. Franzmann, F. Khalil, C. Weidmann, M. Schröder, M. Rohnke, J. Janek,  
B. Smarsly, and W. Maison  
Chem. Eur. J. **17** (2011) 8596-8603
- (115) *Perovskite-Type Proton Conductor for Novel Direct Ionic Thermoelectric Hydrogen Sensor*  
U. Röder-Roith, F. Rettig, K. Sahner, T. Röder, J. Janek, R. Moos  
Solid State Ionics **192** (2011) 101-104
- (116) *Platinum Oxide Formation in the Electrode System Pt(O<sub>2</sub>)/YSZ Investigated by In situ Scanning Photoelectron Emission Microscopy*  
H. Pöpke, E. Mutoro, B. Luerßen, M. Amati, L. Gregoratti, J. Janek  
Electrochim. Acta **56** (2011) 10668-10675
- (117) *Electrochemical deposition of silver from 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate*  
A. Ispas, M. Pölleth, K. H. Tran Ba, Bund, A., J. Janek  
Electrochim. Acta **56** (2011) 10332-10339
- (118) *Electrochemically Induced Oxygen Spillover and Diffusion on Pt(111): PEEM Imaging and Kinetic Modelling*  
E. Mutoro, C. Hellwig, B. Luerssen, S. Günther, W. G. Bessler, and J. Janek  
Phys. Chem. Chem. Phys. **13** (2011) 12798-12807
- (119) *Nitrogen-doped carbon fibers and membranes by carbonization of electrospun poly(ionic liquid)s*  
J. Yuan, A. G. Márquez, J. Reinacher, C. Giordano, J. Janek, M. Antonietti  
Polym. Chem. **2** (2011) 1654-1657
- (120) *Room-temperature Sodium-ion batteries: Improving the rate capability of carbon anode materials by templating strategies*  
S. Wenzel, T. Hara, J. Janek, and P. Adelhelm  
Energy Environ. Sci. **4** (2011) 3342-3345
- (121) *Thermoelectric compounds. Electricity from waste heat*  
W. Zeier, M. Panthöfer, J. Janek, W. Tremel  
Chemie in Unserer Zeit **45**(3) (2011) 188-200

- (122) *The role of a diffusion barrier in plasma display panel with the high gamma cathode layer*  
T.-H. Lee, H.-W. Cheong, O. Kwon, K.-W. Whang, S. O. Steinmüller, and J. Janek  
Appl. Phys. Lett. **99** (2011) 171501
- (123) *Structure and dynamics of the fast lithium ion conductor “Li<sub>7</sub>La<sub>3</sub>Zr<sub>2</sub>O<sub>12</sub>”*  
H. Buschmann, J. Dölle, S. Berendts, A. Kuhn, P. Bottke, M. Wilkening, P. Heitjans, A. Senyshyn, H. Ehrenberg, A. Lottnyk, V. Duppel, L. Kienle, and J. Janek  
Phys. Chem. Chem. Phys. **13** (43) (2011) 19378 – 19392  
see also corrigendum: Phys.Chem. Chem. Phys. **13** (2011) 21658-21659
- (124) *Ordered Large-Pore Mesoporous Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> Spinel Thin Film Electrodes for Application in High Rate Rechargeable Lithium Batteries and Hybrid Supercapacitors: Relationships among Charge Storage, Electrical Conductivity and Nanoscale Structure*  
J. Haetge, P. Hartmann, K. Brezesinski, J. Janek, and T. Brezesinski  
Chem. Mater. **23**(19) (2011) 4384-4393
- (125) *Investigation of various ionic liquids and catalyst materials for lithium-oxygen batteries*  
A. Garsuch, D. M. Badine, K. Leitner, L. H. S. Gasparotto, N. Borisenko, F. Endres, M. Vračar, J. Janek, R. Oesten  
Z. Phys. Chem. **226** (2012) 107-119
- (126) *Conductivity of Liquid Lithium Electrolytes with dispersed mesoporous silica particles*  
K. Sann, J. Roggenbuck, N. Krawczyk, H. Buschmann, B. Luerßen, M. Fröba and J. Janek  
Electrochim. Acta **60** (2012) 1-6
- (127) *In situ study of electrochemical activation and surface segregation of the SOFC electrode material La<sub>0.8</sub>Sr<sub>0.25</sub>Cr<sub>0.5</sub>Mn<sub>0.5</sub>O<sub>3±δ</sub>*  
A.-K. Huber, M. Falk, M. Rohnke, B. Luerßen, L. Gregoratti, D. Matteo, J. Janek  
Phys. Chem. Chem. Phys. **14** (2012) 751-758
- (128) *Reversible Compositional Control of Oxide Surfaces by Electrochemical Potentials*  
E. Mutoro, E. J. Crumlin, H. Pöpke, B. Luerssen, M. Amati, M. K. Abyaneh, M. D. Biegalski, H. M. Christen, L. Gregoratti, J. Janek, Y. Shao-Horn  
J. Phys. Chem. Lett. **3** (2012) 40-44
- (129) *Oxidation of platinum in the epitaxial model system Pt(111)/YSZ(111) – Quantitative analysis of an electrochemically driven PtO<sub>x</sub> formation*  
H. Pöpke, E. Mutoro, B. Luerßen, J. Janek  
J. Phys. Chem. C **116** (2012) 1912-1920
- (130) *Drug Eluting Stents Based on Poly(ethylene carbonate): Optimization of the stent coating process*  
N. Bege, S. O. Steinmüller, M. Kalinowski, R. Reul, S. Klaus, H. Petersen, C. Curdy, J. Janek, T. Kissel  
Eur. J. Pharm. Biopharm. **80**(3) (2012) 562-570

- (131) *Quantification of impurity concentration in Cu<sub>2</sub>O and CuO via secondary ion mass spectrometry*  
A. Laufer, D. Reppin, H. Metelmann, S. Geburt, C. Ronning, T. Leichtweiss, J. Janek, B. K. Meyer  
Phys. Stat. Sol. B **249**(4) (2012) 801-811
- (132) *Photoelectron Microscopy: Imaging Tools for the Study of Surface Reactions with Temporal and Spatial Resolution*  
E. Mutoro, B. Luerßen, S. Günther, and J. Janek  
Book chapter in: *Methods in Physical Chemistry*, First Edition.  
Eds.: R. Schäfer and P. C. Schmidt, Wiley-VCH 2012, 513-546
- (133) *Lithium metal electrode kinetics and Ionic Conductivity of the solid lithium ion conductors “Li<sub>7</sub>La<sub>3</sub>Zr<sub>2</sub>O<sub>12</sub>” and Li<sub>7-x</sub>La<sub>3</sub>Zr<sub>2-x</sub>Ta<sub>x</sub>O<sub>12</sub> with garnet garnet-type structure*  
H. Buschmann, S. Berendts, B. Mogwitz, and J. Janek  
J. Power Sources **206** (2012) 236-244
- (134) *Degradation of functional materials in temperature gradients – Thermomodiffusion and the Soret effect*  
J. Janek, J. Sann, B. Mogwitz, M. Rohnke, M. Kleine-Boymann  
J. Korean Ceram. Soc. **49** (2012) 56-65
- (135) *Electrical conductivity of quartz glass measured by impedance spectroscopy between 600 °C and 1100 °C*  
M. Stamminger, D. K. Lee, M. Nebe, J. Janek  
Phys. Chem. Glasses – Eur. J. Glass Sci. Technol. **53**(5) (2012) 181-185
- (136) *Combining surface analysis with electrochemistry – in situ examination of SOFC model electrodes*  
A. K. Huber, M. Falk, M. Rohnke, B. Luerssen, M. Amati, L. Gregoratti, D. Hesse, J. Janek  
J. Catal. **294** (2012) 79-88
- (137) *Oxidation kinetics of nitrogen-doped TiO<sub>2-δ</sub> thin films*  
J. Shi, D. K. Lee, H. I. Yoo, J. Janek, and K. D. Becker  
Phys. Chem. Chem. Phys. **14**(37) (2012) 12930-12937
- (138) *Influence of partial substitution of Te by Se and Ge by Sn on the properties of the Blu-ray phase-change material Ge<sub>8</sub>Sb<sub>2</sub>Te<sub>11</sub>*  
S. Buller, C. Koch, W. Bensch, P. Zalden, R. Sittner, S. Kremers, M. Wuttig, U. Schürmann, L. Kienle, T. Leichtweiß, J. Janek, B. Schönborn  
Chem. Mater. **24** (2012) 3582-3590
- (139) *Twins within platinum and palladium films on YSZ — Location for hole formation during de-wetting and oxygen exchange*  
G. Beck and J. Janek  
Solid State Ionics **227** (2012) 57-65
- (140) *An electrolyte partially-wetted cathode improving oxygen diffusion in cathodes of non-aqueous Li-air batteries*  
C. Xia, C. L. Bender, B. Bergner, K. Peppler, and J. Janek  
Electrochem. Comm. **26** (2013) 93-96

- (141) *A Rechargeable Room-Temperature Sodium Superoxide Battery*  
P. Hartmann, C. Bender, M. Vračar, A. K. Dürr, A. Garsuch, J. Janek,  
and P. Adelhelm  
Nat. Mater. **12** (2013) 228-232
- (142) *Stabilization of cubic lithium-stuffed garnets of the type "Li<sub>7</sub>La<sub>3</sub>Zr<sub>2</sub>O<sub>12</sub>"  
by addition of gallium*  
H. El Shinawi and J. Janek  
J. Power Sources **225** (2013) 13-19
- (143) *Combining Electrochemistry and Time of Flight Secondary Ion Mass Spectrometry:  
Quasi-in-situ Investigation of Lanthanum Strontium Chromate Manganese Electrodes*  
M. Rohnke, M. Falk, A. K. Huber, and J. Janek  
J. Power Sources **21** (2013) 97-107
- (144) *Oxygen tracer diffusion along interfaces of strained Y<sub>2</sub>O<sub>3</sub>/YSZ multilayers*  
H. Aydin, C. Korte, M. Rohnke, and J. Janek  
Phys. Chem. Chem. Phys. **15** (2013) 1944-1955
- (145) *Oxygen Reduction and Oxidation at Epitaxial Model-type Pt(O<sub>2</sub>)/YSZ Electrodes  
– On the role of PtO<sub>x</sub> formation on Activation, Passivation, and Charge Transfer*  
H. Pöpke, E. Mutoro, B. Luerßen, and J. Janek  
Catal. Today **202** (2013) 12-19
- (146) *Defect Chemistry of Oxide Nanomaterials with High Surface Area:  
Ordered Mesoporous Thin Films of the Oxygen Storage Catalyst CeO<sub>2</sub>-ZrO<sub>2</sub>*  
P. Hartmann, T. Brezesinski, J. Sann, A. Lotnyk, J. P. Eufinger, L. Kienle, J. Janek  
ACS Nano **7**(4) (2013) 2999-3013
- (147) *High Pressure Carbon Monoxide Oxidation over Platinum (111)*  
A. Farkas, K. Zalewska-Wierzbicka, C. Bachmann, J. Goritzka, D. Langsdorf,  
O. Balmes, J. Janek, and H. Over  
J. Phys. Chem. C **117**(19) (2013) 9932-9942
- (148) *Large Zeolite H-ZSM-5 Crystals as Models for the Methanol-to-Hydrocarbons  
Process: Bridging the Gap between Individual Crystals and Powdered Catalysts*  
J. P. Hofmann, D. Mores, L. R. Aramburo, S. Teketel, M. Rohnke, J. Janek, U.  
Olsbye, and B. M. Weckhuysen  
Chem. Eur. J. **19** (2013) 8533-8542
- (149) *Surface and in-depth characterization of lithium-ion battery cathodes at different cycle  
states using confocal micro-X-ray fluorescence-X-ray absorption near edge structure  
analysis*  
M. Menzel, A. Schlifke, M. Falk, J. Janek, M. Fröba, U. E. A. Fittschen  
Spectrochim. Acta Part B: Atom. Spec. **85** (2013) 62-70
- (150) *In-situ Structural Investigation of Non-Stoichiometric HfO<sub>2-x</sub> Films Using QEXAFS*  
M. Liu, T. Leichtweiß, J. Janek, and M. Martin  
Thin Solid Films **539** (2013) 60-64
- (151) *Low pressure oxygen direct current discharges with ion conducting  
yttria stabilized zirconia electrodes*  
S. O. Steinmüller, M. Rohnke and J. Janek  
Solid State Ionics **245-246** (2013) 24-32

- (152)  $\text{Li}_3\text{Ti}_4\text{NiMnO}_{12}$  and  $\text{Li}_3\text{Ti}_4\text{NiCrO}_{12}$ : *New substituted lithium titanium oxides*  
H. El Shinawi, M. Falk, C. Greaves, and J. Janek  
Solid State Sciences **22** (2013) 65-70
- (153) *A comprehensive study on the cell chemistry of the sodium superoxide ( $\text{NaO}_2$ ) battery*  
P. Hartmann, C. Bender, J. Sann, A. K. Dürr, M. Jansen, J. Janek, and P. Adelhelm  
Phys. Chem. Chem. Phys. **15** (2013) 11661-11672
- (154)  $^{18}\text{O}$ -tracer diffusion measurements in  $\text{Sc}_2\text{O}_3/\text{YSZ}$  multilayers – *The influence of compressive strain*  
H. Aydin, C. Korte, and J. Janek  
Sci. Technol. Adv. Mater. **14** (2013) 035007
- (155) *Thermodynamics and cell chemistry of room temperature sodium/sulfur cells with liquid and liquid/solid electrolyte*  
S. Wenzel, H. Metelmann, C. Raiß, A. K. Dürr, J. Janek, P. Adelhelm  
J. Power Sources **243** (2013) 758-765
- (156) *Applicability of ToF-SIMS for monitoring compositional changes in bone in a long term animal model*  
A. Henß, M. Rohnke, T. El Khassawna G. Schlewitz, C. Heiß, and J. Janek  
J. Royal Soc. Interface, in print (06/2013)

### Other Publications (without peer review), extended Abstracts:

- (1) *Electrochemical oscillations at solid|solid-electrodes*  
J. Janek  
GIT - Fachzeitschrift für Labor und Technik **3**, 265 - 266 (1997)
- (2) *Oxidationsprozesse*  
J. Janek  
in: Dynamik und Strukturbildung in kondensierter Materie, Vorlesungsmanuskripte des 28. IFF-Ferienkurses vom 3. - 14. März 1997, Forschungszentrum Jülich, Jülich 1997
- (3) *Book review: „Kinetic Peculiarities of Solid Phase Reactions“*  
by E. Ya. Davydov et al.  
J. Janek  
Adv. Mater. **11**(15), 1317 - 1318 (1999)
- (4) *Trendbericht Festkörperchemie 1998*  
J. Janek and M. Ruck  
Nachr. Labor und Technik 1999
- (5) *Prof. Wolfgang Laqua, zum 65. Geburtstag*  
J. Janek and H. Schmalzried  
Bunsen-Magazin **2**(4), 98 – 99 (2000)
- (6) *Je mehr Fehler, desto besser ...*  
J. Janek  
UNI-Forum der JLU Gießen, Ausgabe 2, 4 (2001)
- (7) *Book review: „Festkörper – Fehler und Funktion“* by J. Maier  
J. Janek  
Angew. Chemie **113**(6), 3170 – 3171 (2001)
- (8) *Physikalische Chemie und Computeralgebra*  
M. Vennekamp and J. Janek  
ChiuZ **35**(4), 275 (2001)
- (9) *Bunsen unterm Dach!*  
J. Janek und B. Luerßen  
Bunsenmagazin 3 ( 2002) 64
- (10) *Book review: „Electrochemical activation of catalysis: promotion, electrochemical promotion, and metal-support interaction“* by C.G. Vayenas, S. Bebelis, C. Pliangos, S. Brosda, D. Tsiplakides; Kluwer/Plenum, New York, 2001. 574 pp  
J. Janek  
J. Solid State Electrochem. **6** (2002)
- (11) *Nichtstöchiometrische Festkörper mit Ionen- und Elektronenleitfähigkeit – Objekte und Spielzeuge der Festkörperelektrochemie*  
J. Janek  
Z. Anorg. Allg. Chem. **628** (2002) 2134

- (12) *Elektrochemie mit Gasplasmen: Die Kinetik der Oxidation von Silber in Chlorplasmen und die Morphologie der Produktschichten*  
Vennekamp and J. Janek  
Z. Anorg. Allg. Chem. **628** (2002) 2152
- (13) *Magnetoresistance in Non-stoichiometric silver chalcogenides*  
B. Mogwitz, G. Beck, F. Gruhl, M. von Kreutzbruck and J. Janek  
Z. Anorg. Allg. Chemie **628** (2002) 2223
- (14) *Mikrowellen-Plasmen als kontaktfreie Elektroden – Eine Anwendung bei der Metalloxidation in einem elektrischen Feld*  
H. Reinshagen and J. Janek  
Z. Anorg. Allg. Chemie **628** (2002) 2231
- (15) *„Liebig und sein Umfeld“; Book review: „Liebig und seine Schüler – die neue Schule der Chemie“ by G. Schwedt*  
J. Janek  
ChiuZ **37** (2003) 364
- (16) *Liebig als „Studienreformer“ – Das erste moderne Unterrichtslaboratorium der Chemie*  
in: Historische Stätten der Chemie – Lustus von Liebig; Broschüre anlässlich der Verleihung der Plakette „Historische Stätten der Chemie“ am 16. Mai 2003; GDCh und Liebig-Gesellschaft, Gießen
- (17) *Chemie im Vierten Aggregatzustand*  
HighChem
- (18) *An Electrochemically Controlled Surface Reaction*  
B. Luerßen, H. Fischer, J. Janek, S. Günther, L. Gregoratti and M. Kiskinova  
Elettra Highlights 2002 – 2003, Sincrotrone Trieste, Trieste, Italy, 2003, pp. 64 – 66
- (19) *Oxygen exchange at the interface between an oxygen plasma and an oxygen ion-conducting solid electrolyte (YSZ)*  
M. Rohnke, J. Janek, R. Chater, J. Kilner,  
International Conference on Phenomena in Ionized Gases, Proceed. 26th, Greifswald, Germany, July 15-20, 2003 (2003), Vol. 2, 19-20.
- (20) *Microwave plasmas as contactless electrodes - applied to electric field driven reactions*  
H. Reinshagen and J. Janek  
International Conference on Phenomena in Ionized Gases, Proceed. 26th, Greifswald, Germany, July 15-20, 2003 (2003), 2 17-18
- (21) *Solid state electrochemistry in low temperature plasmas*  
J. Janek and M. Vennekamp  
International Conference on Phenomena in Ionized Gases, Proceed. 26th, Greifswald, Germany, July 15-20, 2003 (2003), 2 13-14
- (22) *Forschung macht Mut!* (Editorial)  
J. Janek  
ChiuZ 38 (2004) 83

- (23) *Ionic conduction in nano-sized oxide multi-layers*  
A. Peters, C. Korte and J. Janek  
Z. Anorg. Allg. Chem. **630**(11) (2004) 1694
- (24) *Magnetoresistance of silver selenide thin films –  
Size effect and composition dependence*  
B. Mogwitz, F. Gruhl, M. von Kreutzbruck, C. Korte and J. Janek  
Z. Anorg. Allg. Chem. **630**(11) (2004) 1744
- (25) *Gas-tight platinum thin films on YSZ for in situ studies  
of the electrode kinetics*  
H. Fischer, B. Luerßen, F. Schneider, S. Günther, A. Weidenkaff,  
M. Kiskinova and J. Janek  
Z. Anorg. Allg. Chem. **630**(11) (2004) 1722
- (26) *Electrochemical Reduction and Incorporation of Nitrogen into Oxygen conducting  
Oxides*  
I. Valov, J. Janek, C. Korte, R. De Souza, M. Martin  
Z. Anorg. Allg. Chem. **630**(11) (2004) 1763
- (27) *Diffusion und Reaktion in dotierten Zirkoniumoxonitriden*  
M. Kilo, J. Janek, M. Lerch, G. Borchardt  
Z. Anorg. Allg. Chem. **630**(11) (2004) 1734
- (28) *Forschung und Lehre im Schatten von Samsung und Toyota*  
(Klaus Funke zum 60. Geburtstag)  
J. Janek  
Bunsen-Magazin **6**(6) (2004) 150-151
- (29) *84th International Bunsen Discussion Meeting: Structure and Dynamics  
of Disordered Ionic Materials in Münster*  
K. Funke and J. Janek  
Bunsen-Magazin **7**(1) (2005) 11 (mit Titelbild)
- (30) *Realstrukturen in Filmen und bulk-Proben von  $\text{Ag}_{2+x}\text{Se}$  und verwandten  
Verbindungen*  
L. Kienle, B. Mogwitz, M. Kreutzbruck, C. Korte, J. Janek, V. Duppel  
Z. Kristallogr. Suppl., accepted 2005
- (31) *Festkörperelektrochemie*  
J. Janek, B. Franz, S. A. Meiss, K. Peppler, E. Mutoro  
Wochenschau Elektrochemie der GDCh
- (32) *Electrochemically controlled reduction of molecular nitrogen  
at iridium micro-electrodes on zirconia solid electrolyte*  
I. Valov, B. Luerßen, E. Mutoro, J. Janek, S. Günther,  
L. Gregoratti, M. Kiskinova  
ELETTRA Highlights 2005-2006, ELETTRA, Trieste/Italy, 2006
- (33) *Festkörperelektrochemie - Im Brennpunkt von Elektrochemie, Festkörperchemie und  
Materialforschung*  
J. Janek  
Nachrichten aus der Chemie **55** (2007) 27-32

- (34) *Photoelectron Microscopy*  
E. Mutoro, B. Luerßen, S. Günther, J. Janek  
Bunsen-Magazin **9**(2) (2007) 18-34
- (35) *Ion-conducting electrodes and probes for low temperature plasmas*  
S. A. Meiss, S. O. Steinmüller, M. Rohnke, F. Rettig, R. Moos, J. Janek  
International Conference on Phenomena in Ionized Gases, Proceed. 28th,  
Prague, Czech Republic, July 15-20, 2007 (2007), XX
- (36) *Solid State Reactivity – From Macro to Nano* (Editorial)  
J. Janek, M. Martin and K. D. Becker  
Solid State Sciences **10** (2008) 669
- (37) *Reactions at Interfaces between Ionic Liquids and Low Temperature Plasmas*  
M. Pölleth, S. A. Meiss, M. Rohnke, J. Janek  
Proc. Intern. Interdisc. Symp. Gaseous and Liquid Plasmas, Sept. 5-6th 2008,  
Akiu/Sendai, p. 226
- (38) *Batterien*, in Sonderheft „Chemie und Energie“, Dechema, GDCh, DBG (2008)
- (39) *Analytical TEM investigations of Pt/YSZ interfaces*  
Srot, M. Watanabe, C. Scheu, P. A. van Aken, E. Mutoro, J. Janek, M. Rühle  
EMC 2008, Vol. 2: Materials Science, Springer-Verlag Berlin Heidelberg, 2008, 369 -  
370
- (40) *Unsere Lehre ist nicht schlecht*  
J. Janek, C. Remenyi  
Nachrichten aus der Chemie **57**(2) (2009) 129-131
- (41) *Physical Chemistry – The Science behind Materials Engineering*  
J. Janek, M. Martin, K. D. Becker  
Bunsen-Magazin **11**(2) (2009) 52-58
- (42) *Mehr Aufmerksamkeit* (Editorial)  
J. Janek  
Nachrichten aus der Chemie **57**(3) (2009) 213
- (43) *Physical Chemistry – The Science behind Materials Engineering*  
J. Janek, M. Martin and K. D. Becker  
PCCP **11** (2009) 3010
- (44) Knochen
- (45) *The Role of the Impurity Diffusion Barrier for the Cathode Material in AC PDP*  
Ki-Woong Whang, Tae-Ho Lee, Hee-Woon Cheong, Sven Ole Steinmüller, and Jür-  
gen Janek  
SID Symposium Digest 42 505 (2011)
- (46) *Photoelectron Microscopy: Imaging Tools for the Study of  
Surface Reactions with Temporal and Spatial Resolution*  
Eva Mutoro, Bjoern Luerßen, Sebastian Guenther, and Jürgen Janek

- () *Electrochemically controlled surfaces*  
E. Mutoro, E. J. Crumlin, H. Pöpke, B. Luerssen, M. Amati, M. K. Abyaneh,  
M. D. Biegalski, H. M. Christen, L. Gregoratti, J. Janek, Y. Shao-Horn  
ELETTRA Highlights, 2013