



DIFFER

Annual Report 2012
appendix

Dutch Institute for Fundamental Energy Research

This appendix to the DIFFER annual report 2012 gives an overview of the employees in the institute's groups and lists the scientific output at DIFFER in 2012. The annual report can be found at http://www.differ.nl/en/annual_reports

Index

Appendix A - Personnel.....	4
Appendix B - Output - Fusion Physics.....	8
Output - PSI.....	19
Output - MaSF	26
Output - nSI.....	27
Output - GUTHz.....	32

appendix **A**

Personnel

Management

Director
Institute manager

M.C.M. van de Sanden
W.R. Koppers

Fusion Physics

Division head

A.J.H. Donné

Plasma Diagnostics (PDG)

Group leader
Senior scientists
Post-Docs
Graduate students
Undergraduate students

P.C. de Vries
I.G.J. Classen, M. Kantor (also Ioffe and FZJ), M. von Hellermann
E. Delabie, D. Moseev, A. Shumack, M. Tsalas
A. Bogomolov, J.E. Boom, J. Hawke, A. Kappatou
D. van den Bekerom, G. Bertens, C. Ehrlacher, K. Verhaegh

Tokamak Physics (TP)

Group leader
Senior scientist
Technicians
PhD students
Undergraduate students

M. de Baar
W.A. Bongers
D. Ronden, B. Elzendoorn, J. Oosterhout
M. van Berkel, H. Boesenkool, H. van den Brand, G. Hommen, M. Lauret
N. Borgers, B. Maljaars, R. Voorhoeve

Computational Plasma Physics - High Temperature (CPP-HT)

Group leader
Senior scientists
Postdoc
PhD students
Undergraduate students

Guest researcher

E. Westerhof
H.J. de Blank, G.M.D. Hogeweij
J.L. Pratt
B. Ayten, J. Citrin, B. van Es, J.W. Haverkort, F. Jaulmes, W. Weymiens, D. Zhelyazhov
H. van den Brand (PhD student at Tokamak Physics after 2/2012), S. Paquay, J. Heres,
J. van Dongen
R. Boot

ITER-NL

Group leader
Industrial Liaison Officer
Senior scientist

A.J.H. Donné
A.G.A. Verhoeven
A.P.H. Goede

Plasma Surface Interactions (PSI)

Division head A.J.H. Donné

PSI Operations (PSI-O)

Group leader	P.A. Zeijlmans van Emmichoven
Senior scientist	H.J. van der Meiden
Research technicians	R.S. Al, S. Brons, H.N.N. van Eck, O.G. Kruyt, A. Lof, P.R. Prins, J. Scholten, P.H.M. Smeets
PhD student	M.H.J. 't Hoen
Undergraduate students	E.A. Stapel, C. Spork

PSI Experimental (PSI-E)

Group leader	G. De Temmerman
Postdoc	T. Morgan
PhD students	K. Bystrov, I. Tanyeli, J.J. Zielinski
Undergraduate students	D. Van den Bekerom, S. van Eden, S. Kalcik, T. de Kruijff, E. Roche
Research technician	M.A. van den Berg
Guest researchers	L. Cheng, C. Li, H. Xu

Low Temperature Plasma Physics and Heating (LTPP&H)

Group leader	G. van Rooij
Research engineer	M.J. van de Pol
PhD student	N. den Harder
Research technician	M.F. Graswinckel
Undergraduate student	T. Minea

Computational Plasma Physics - Low Temperature (CPP-LT)

Group leader	W.J. Goedheer
Senior scientist	H.J. de Blank (50%, from CPP-HT)
PhD students	R.C. Wieggers, G.A. van Swaaij
Undergraduate students	I.M. Polderman, L.H.J. Kraah, C.J.G.M. Verbeke
Guest researcher	H.R. Tober

Materials and Materials Processing for Solar Fuels (MaSF)

Division head M.C.M. van de Sanden

Senior scientists	W.A. Bongers (previously Tokamak Physics), A.P.H. Goede (also ITER-NL), M. Gleeson, (previously SIPC)G. van Rooij (previously LTPP&H)
PhD student	M.F. Graswinckel (previously LTPP&H)
Undergraduate student	T. Minea (previously LTPP&H)

Nanolayer Surface and Interface Physics (nSI)

Division head F. Bijkerk

Advanced Application of XUV Optics (AXO)

Group leader	E. Louis
Scientific advisors	A.W. Kleyn, R. Sobierajski, J. Verhoeven
Postdoc	R.A. Loch
PhD student	I. Makhotkin, D.M. Paardekooper, R. Lenssen, K. Nikolaev
Research engineers	A.J. van Calcar, K. Grootkarzijn, P. Sallé
Technician	E. Zoethout

Extreme UV Laboratory (EUV-Lab)

Group leader	C. J. Lee
Postdoc	J. M. Sturm
PhD students	R. van den Bos, A. Dolgov, A. Gao, M. Pachecka, F. Liu
Undergraduate student	B van Albada

Thin Film & Multilayer Physics (TFM)

Group leader	A.E. Yakshin
Scientific advisors	A.W. Kleyn, J. Verhoeven
Senior scientist	R.W.E. van de Kruijs
Postdoc	T. Zaharia
PhD students	J. Bosgra, R. Coloma Ribera, S. Huber, V. Medvedev, S. Nyabero
Research engineers	S. Alonso van der Westen, B. Krijger
Guest researcher:	I. Kozhevnikov (Crystallography Inst. Moscow)

Surface Ion & Photon Chemistry (SIPC)

Group leader a.i.	F. Bijkerk
Scientific advisor	A.W. Kleyn
Senior scientist	M. Gleeson
Postdoc	T. Zaharia
PhD student	A. Kuznetsov

Generation and Utilization of TeraHertz Radiation (GUTHz)

Division head A.F.G. van der Meer

FELIX / FELICE

Group leader	A.F.G. van der Meer
Senior scientists	G. Berden, B. Redlich
Technicians	R. van Buuren, P.F.M. Delmee, M. Riet, W.E.P. Roodhuyzen, C.J. Tito

Molecular Dynamics (MolDyn)

Group leader	J. Oomens
Senior scientist	J.M. Bakker
Postdoc	A. Petrigani
PhD students	H. Alvaro Galué, J. Gao, J. Grzetic, S. Jaqx, D. Kiawi, VJ.F. Lapoutre, A. Stoffels
Technician	J. Plugers

Support Facilities and Staff

Division head W.R. Koppers

Electronics & ICT

Group leader A. Broekema
 Personnel M.T. Breugem, P.J. Busch, J.W. Genuit, P.W.C. Groen, G.W. Hendriks, G. Kaas
 J.J. Kamp, B.J.M. Krijger, S.W.T de Kroon, G. Land, W. Melissen, A.J. Poelman
 J.J.B. Stakenborg, C.J. Theunissen, A.J.H. Tielemans, J.W. Wahlbrinck, F. Wijnoltz
 R.W. Zimmerman

Mechanical Techniques

Group leader F.J. van Amerongen
 Personnel M.P.A. van Asselen, A.G.M. van den Bogaard, J. Lagerweij, B. Lamers,
 L.W.E.G. Römers, A. Tamminga, C.R. Wolbeer, P.M. Wortman

Financial Administration

Group leader M.P.M. Schoonen
 Personnel D. Nguyen, N. Nobbenhuis-Versluis, S. Werner

Management Support

Group leader W.R. Koppers
 Personnel E.M. Khan, M.J. van Veenendaal, M.D. van der Vlis, I.H. Vörös, J.G. Stroet
 E.C.M. van Wijk

Personnel Services (Human Resources)

Group leader W.R. Koppers (a.i. until July), A.M.A. van Oploo (starting July)
 Personnel J.M. van Achthoven, C.L.M. Tonen

Public Information

Group leader F.T.M.E. de Vries
 Personnel A.P. Visser

Domestic Facilities

Group leader J.E. Kragten
 Personnel J.F. Alberts, J.C. Bleijenberg-Maarsseveen, F.F. Hekkenberg, J.M. Rietveld-Nieuwhoff
 S. van Schaik, P. Stekelenburg-van Woudenberg, J.B. Uwland,
 L.M. van de Ven-van den Akker

Gardens and Surroundings

Group leader A. Bikker

Technical Facilities

Group leader W.K. van de Graaf
 Personnel M.H. Kloosterman, E.P.A. de Korte

appendix **B**

Scientific output

Fusion Physics

PhD theses: 2

1. J.E. Boom, *Characterization of Edge Localized Modes in Tokamak Plasmas*, PhD thesis at Eindhoven University of Technology, 2012/11/07, Promotor: A.J.H. Donné
2. J. Citrin, *Turbulent transport in tokamak advanced scenarios*, PhD thesis at Eindhoven University of Technology, 2012/12/20, Promotor: W.J. Goedheer, N.J. Lopes Cardozo

Publications in peer-reviewed scientific journals: 59

1. R. Albanese, F. Maviglia, P.J. Lomas, A. Manzanares, M. Mattei, A. Neto, F.G. Rimini, P.C. de Vries, *Experimental results with an optimized magnetic field configuration for JET breakdown*, *Nucl. Fusion* 52 (2012) 123010
2. B. Ayten, E. Westerhof, *Consequences of plasma rotation for neoclassical tearing mode suppression by electron cyclotron current drive*, *Phys. Plasmas* 19 (2012) 092506
3. Y.F. Baranov, C.D. Challis, J. Ongena, B. Alper, G. Arnoux, P. Buratti, T. Gerbaud, D. Keeling, V. Kiptily, J. Mailloux et al., *Large ELM-like events triggered by core MHD in JET advanced tokamak plasmas: impact on plasmas profiles, plasma-facing components and heating systems*, *Nucl. Fusion* 52 (2012) 023018
4. J.J. Bolder, G. Witvoet, M.R. de Baar, N. van de Wouw, M.A.M. Haring, E. Westerhof, N.J. Doelman, M. Steinbuch, *Robust sawtooth period control based on adaptive online optimization*, *Nucl. Fusion* 52 (2012) 074006
5. J.E. Boom, E. Wolfrum, I.G.J. Classen, P.C. de Vries, M. Maraschek, W. Suttrop, C.P.P. von Thun, A.J.H. Donne, B.J. Tobias, C.W. Domier et al., *Characterization of broadband MHD fluctuations during type-II edge localized modes as measured in 2D with ECE-imaging at ASDEX Upgrade*, *Nucl. Fusion* 52 (2012) 114004
6. H. van den Brand, M.R. de Baar, N.J.L. Cardozo, E. Westerhof, *Integrated modelling of island growth, stabilization and mode locking: consequences for NTM control on ITER*, *Plasma Phys. Control. Fusion* 54 (2012) 094003
7. J. Citrin, C. Bourdelle, P. Cottier, D.F. Escande, O.D. Gurcan, D.R. Hatch, G.M.D. Hogeweij, F. Jenko, M.J. Pueschel, *Quasilinear transport modelling at low magnetic shear*, *Phys. Plasmas* 19 (2012) 062305
8. J. Citrin, J. Hobirk, M. Schneider, J.F. Artaud, C. Bourdelle, K. Crombe, G.M.D. Hogeweij, F. Imbeaux, E. Joffrin, F. Koechl et al., *Predictive analysis of q-profile influence on transport in JET and ASDEX Upgrade hybrid scenarios*, *Plasma Phys. Control. Fusion* 54 (2012) 065008
9. M.F.M. De Bock, J. Citrin, S. Saarelma, D. Temple, N.J. Conway, A. Kirk, H. Meyer, C.A. Michael, *Measurements of the edge current evolution and comparison with neoclassical calculations during MAST H-modes using motional Stark effect*, *Plasma Phys. Control. Fusion* 54 (2012) 025001
10. A.J.H. Donne, A.E. Costley, A.W. Morris, *Diagnostics for plasma control on DEMO: challenges of implementation*, *Nucl. Fusion* 52 (2012) 074015
11. F. Durodié, M.P.S. Nightingale, M.L. Mayoral, J. Ongena, A. Argouarch, G. Bergerby, T. Blackman, V. Cocilovo, A. Czarnicka, S. Dowson et al., *Physics and engineering results obtained with the ion cyclotron range of frequencies ITER-like antenna on JET*, *Plasma Phys. Control. Fusion* 54 (2012) 074012
12. B.S.Q. Elzendoorn, M.R. de Baar, D. Hamilton, C.J.M. Heemskerk, J.F. Koning, D.M.S. Ronden, *Analysis and validation center for ITER RH maintenance scenarios in a virtual environment*, *Fusion Eng. Des.* 87 (2012) 263-266
13. V. Furtula, F. Leipold, M. Salewski, P.K. Michelsen, S.B. Korsholm, F. Meo, D. Moseev, S.K. Nielsen, M. Stejner, T. Johansen, *Performance measurements of the collective Thomson scattering receiver at ASDEX Upgrade*, *JINST* 7 (2012) C02039
14. C. Giroud, G. Maddison, K. McCormick, M.N.A. Beurskens, S. Brezinsek, S. Devaux, T. Eich, L. Frassinetti, W. Fundamenski, M. Groth et al., *Integration of a radiative divertor for heat load control into JET high triangularity ELMy H-mode plasmas*, *Nucl. Fusion* 52 (2012) 063022

15. J.P. Goedbloed, Comment on "Continuum modes in rotating plasmas: General equations and continuous spectra for large aspect ratio tokamaks" [*Phys. Plasmas* 18, 092103 (2011)], *Phys. Plasmas* 19 (2012) 064701
16. S. da Graça, G.D. Conway, P. Lauber, D. Curran, V. Igochine, I.G.J. Classen, M. Garcia-Muñoz, J. Stober, M.A. Van Zeeland, M.E. Manso, Characterization of Alfvén eigenmodes using NBI during current ramp-up in the ASDEX Upgrade tokamak, *Plasma Phys. Control. Fusion* 54 (2012) 095014
17. J.W. Haverkort, H.J. de Blank, Flow shear stabilization of rotating plasmas due to the Coriolis effect, *Phys. Rev. E* 86 (2012) 016411
18. J.W. Haverkort, H.J. de Blank, B. Koren, The Brunt-Vaisala frequency of rotating tokamak plasmas, *J. Comput. Phys.* 231 (2012) 981-1001
19. J.W. Haverkort, The effect of toroidal plasma rotation on low-frequency reversed shear Alfvén eigenmodes in tokamaks, *Plasma Phys. Control. Fusion* 54 (2012) 025005
20. T. Hellsten, T.J. Johnson, D. Van Eester, E. Lerche, Y. Lin, M.L. Mayoral, J. Ongena, G. Calabro, K. Crombe, D. Frigione et al., Observations of rotation in JET plasmas with electron heating by ion cyclotron resonance heating, *Plasma Phys. Control. Fusion* 54 (2012) 074007
21. B.A. Hennen, M. Lauret, G. Hommen, W. Heemels, M.R. de Baar, E. Westerhof, Nonlinear control for stabilization of small neoclassical tearing modes in ITER, *Nucl. Fusion* 52 (2012) 063007
22. B.A. Hennen, E. Westerhof, P.W.J.M. Nuij, M.R. de Baar, M. Steinbuch, Systematic design and simulation of a tearing mode suppression feedback control system for the TEXTOR tokamak, *Nucl. Fusion* 52 (2012) 074009
23. J. Hobirk, F. Imbeaux, F. Crisanti, P. Buratti, C.D. Challis, E. Joffrin, B. Alper, Y. Andrew, P. Beaumont, M. Beurskens et al., Improved confinement in JET hybrid discharges, *Plasma Phys. Control. Fusion* 54 (2012) 095001
24. G.M.D. Hogeweij, J. Artaud, T. Casper, J. Citrin, F. Imbeaux, F. Köchl, X. Litaudon, I. Voitsekhovitch, Optimizing the Current Ramp-Up Phase for Hybrid ITER Scenario, *Plasma and Fusion Res.* 7 (2012) 2403063
25. R.J.E. Jaspers, M. Scheffer, A. Kappatou, N.C.J. van der Valk, M. Durkut, B. Sniijders, O. Marchuk, W. Biel, G.I. Pokol, G. Erdei et al., A high etendue spectrometer suitable for core charge eXchange recombination spectroscopy on ITER, *Rev. Sci. Instrum.* 83 (2012) 10D515
26. M. Kantor, A possibility of local measurements of ion temperature in a high-temperature plasma by laser induced ionization, *JINST* 7 (2012) C02017
27. A. Kappatou, E. Delabie, R.J.E. Jaspers, M.G. von Hellermann, Feasibility of non-thermal helium measurements with charge exchange spectroscopy on ITER, *Nucl. Fusion* 52 (2012) 043007
28. A. Kappatou, R.J.E. Jaspers, E. Delabie, O. Marchuk, W. Biel, M.A. Jakobs, Method to obtain absolute impurity density profiles combining charge exchange and beam emission spectroscopy without absolute intensity calibration, *Rev. Sci. Instrum.* 83 (2012) 10D519
29. R. Keppens, Z. Meliani, A.J. van Marle, P. Delmont, A. Vlasis, B. van der Holst, Parallel, grid-adaptive approaches for relativistic hydro and magnetohydrodynamics, *J. Comput. Phys.* 231 (2012) 718-744
30. K.K. Kirov, Y. Baranov, T. Gerbaud, M. Goniche, J. Mailloux, M.L. Mayoral, J. Ongena, S. Schmuck, Analysis of electron cyclotron emission by fast electrons generated by lower hybrid current drive at JET, *Plasma Phys. Control. Fusion* 54 (2012) 074003
31. J.F. Koning, M.R. de Baar, B.S.Q. Elzendoorn, C.J.M. Heemskerk, D.M.S. Ronden, W.J. Schuth, Analysis of ITER upper port plug remote handling maintenance scenarios, *Fusion Eng. Des.* 87 (2012) 515 - 519
32. P. Lauber, I.G.J. Classen, D. Curran, V. Igochine, B. Geiger, S. da Graça, M. Garcia-Munoz, M. Maraschek, P. McCarthy, NBI-driven Alfvénic modes at ASDEX Upgrade, *Nucl. Fusion* 52 (2012) 094007
33. M. Lauret, F. Felici, G. Witvoet, T.P. Goodman, G. Vandersteen, O. Sauter, M.R. de Baar, Demonstration of sawtooth period locking with power modulation in TCV plasmas, *Nucl. Fusion* 52 (2012) 062002

34. E. Lerche, D. Van Eester, J. Ongena, M.L. Mayoral, M. Laxaback, F. Rimini, A. Argouarch, P. Beaumont, T. Blackman, V. Bobkov et al., *Optimizing ion-cyclotron resonance frequency heating for ITER: dedicated JET experiments (vol 53, 124019, 2011)*, *Plasma Phys. Control. Fusion* 54 (2012) 069601
35. E. Lerche, D. Van Eester, T.J. Johnson, T. Hellsten, J. Ongena, M.L. Mayoral, D. Frigione, C. Sozzi, G. Calabro, M. Lennholm et al., *Experimental investigation of ion cyclotron range of frequencies heating scenarios for ITER's half-field hydrogen phase performed in JET*, *Plasma Phys. Control. Fusion* 54 (2012) 074008
36. Y. Lin, P. Mantica, T. Hellsten, V. Kiptily, E. Lerche, M.F.F. Nave, J.E. Rice, D. Van Eester, P.C. de Vries, R. Felton et al., *Ion cyclotron range of frequency mode conversion flow drive in D(He-3) plasmas on JET*, *Plasma Phys. Control. Fusion* 54 (2012) 074001
37. O. Maj, E. Poli, E. Westerhof, *Coupling the beam tracing code TORBEAM and the Fokker-Planck solver RELAX for fast electrons*, *J. Phys.: Conf. Ser.* 401 (2012) 012013
38. D. Moseev, F. Meo, S.B. Korsholm, H. Bindslev, V. Furtula, M. Kantor, F. Leipold, P.K. Michelsen, S.K. Nielsen, M. Salewski et al., *Elevation angle alignment of quasi optical receiver mirrors of collective Thomson scattering diagnostic by sawtooth measurements*, *Rev. Sci. Instrum.* 83 (2012) 10E337
39. M.F.F. Nave, L.G. Eriksson, C. Giroud, T.J. Johnson, K. Kirov, M.L. Mayoral, J.M. Noterdaeme, J. Ongena, G. Saibene, R. Sartori et al., *JET intrinsic rotation studies in plasmas with a high normalized beta and varying toroidal field ripple*, *Plasma Phys. Control. Fusion* 54 (2012) 074006
40. G.A. Naylor, R. Scannell, M. Beurskens, M.J. Walsh, I. Pastor, A.J.H. Donné, B. Snijders, W. Biel, B. Meszaros, L. Giudicotti et al., *The ITER Thomson scattering core LIDAR diagnostic*, *J. Inst.* 7 (2012) C03043
41. S.K. Nielsen, M. Salewski, W.A. Bongers, S.B. Korsholm, F. Leipold, F. Meo, P. Michelsen, D. Moseev, J.W. Oosterbeek, M. Stejner et al., *Modification of the collective Thomson scattering radiometer in the search for parametric decay on TEXTOR*, *Rev. Sci. Instrum.* 83 (2012) 113508
42. F.I. Parra, M.F.F. Nave, A.A. Schekochihin, C. Giroud, J.S. de Grassie, J.H.F. Severo, P. de Vries, K.D. Zastrow, *Scaling of Spontaneous Rotation with Temperature and Plasma Current in Tokamaks*, *Phys. Rev. Lett.* 108 (2012) 095001
43. M. Salewski, B. Geiger, S.K. Nielsen, H. Bindslev, M. Garcia-Munoz, W.W. Heidbrink, S.B. Korsholm, F. Leipold, F. Meo, P.K. Michelsen et al., *Tomography of fast-ion velocity-space distributions from synthetic CTS and FIDA measurements*, *Nucl. Fusion* 52 (2012) 103008
44. G.Y.R. Schropp, C.J.M. Heemskerck, A.M.L. Kappers, W.B.M. Tiest, B.S.Q. Elzendoorn, D. Bult, *Influence of visual feedback on human task performance in ITER remote handling*, *Fusion Eng. Des.* 87 (2012) 808 - 812
45. M. Stejner, S.B. Korsholm, S.K. Nielsen, M. Salewski, H. Bindslev, S. Brezinsek, V. Furtula, F. Leipold, P.K. Michelsen, F. Meo et al., *Measurements of plasma composition in the TEXTOR tokamak by collective Thomson scattering*, *Plasma Phys. Control. Fusion* 54 (2012) 015008
46. M. Stejner, S.B. Korsholm, S.K. Nielsen, M. Salewski, H. Bindslev, F. Leipold, P.K. Michelsen, F. Meo, D. Moseev, A. Burger et al., *Temporally resolved plasma composition measurements by collective Thomson scattering in TEXTOR (invited)*, *Rev. Sci. Instrum.* 83 (2012) 10E307
47. Y. Sun, Y. Liang, K.C. Shaing, Y.Q. Liu, H.R. Koslowski, S. Jachmich, B. Alper, A. Alfier, O. Asunta, P. Buratti et al., *Non-resonant magnetic braking on JET and TEXTOR*, *Nucl. Fusion* 52 (2012) 083007
48. B. Tobias, E.M. Bass, I.G.J. Classen, C.W. Domier, B.A. Grierson, W.W. Heidbrink, N.C. Luhmann, R. Nazikian, H.K. Park, D.A. Spong et al., *Alfven eigenmode structure during off-axis neutral beam injection*, *Nucl. Fusion* 52 (2012) 103009
49. B.J. Tobias, M.E. Austin, J.E. Boom, K.H. Burrell, I.G.J. Classen, C.W. Domier, N.C. Luhmann Jr., R. Nazikian, P.B. Snyder, *ECE-imaging of the H-mode pedestal (invited)*, *Rev. Sci. Instrum.* 83 (2012) 10E329
50. M. Tsalas, M.Y. Kantor, O. Maj, R. Bilato, P.C. de Vries, A.J.H. Donne, A. Herrmann, B. Kurzan, E. Wolfrum, *Feasibility study for a new high resolution Thomson scattering system for the ASDEX Upgrade pedestal*, *J. Inst.* 7 (2012) C03015
51. D. Van Eester, E. Lerche, T.J. Johnson, T. Hellsten, J. Ongena, M.L. Mayoral, D. Frigione, C. Sozzi, G. Calabro, M. Lennholm et al., *Minority and mode conversion heating in (He-3)-H JET plasmas*, *Plasma Phys. Control. Fusion* 54 (2012) 074009
52. P.C. de Vries, G. Arnoux, A. Huber, J. Flanagan, M. Lehnen, V. Riccardo, C. Reux, S. Jachmich, C. Lowry, G. Calabro et al., *The impact of the ITER-like wall at JET on disruptions*, *Plasma Phys. Control. Fusion* 54 (2012) 124032
53. H. Weisen, Y. Camenen, A. Salmi, T.W. Versloot, P.C. de Vries, M. Maslov, T. Tala, M. Beurskens, C. Giroud, *Identification of the ubiquitous Coriolis momentum pinch in JET tokamak plasmas*, *Nucl. Fusion* 52 (2012) 042001

54. H. Weisen, Y. Camenen, A. Salmi, T.W. Versloot, P.C. de Vries, M. Maslov, T. Tala, M. Beurskens, C. Giroud, JET-EFDA contributors, Ubiquity of non-diffusive momentum transport in JET H-modes, *Nucl. Fusion* 52 (2012) 114024
55. R.P. Wenninger, H. Zohm, J.E. Boom, A. Burckhart, M.G. Dunne, R. Dux, T. Eich, R. Fischer, C. Fuchs, M. Garcia-Munoz et al., Solitary magnetic perturbations at the ELM onset, *Nucl. Fusion* 52 (2012) 114025
56. W. Weymiens, H.J. de Blank, G.M.D. Hogeweij, J.C. de Valenca, Bifurcation theory for the L-H transition in magnetically confined fusion plasmas, *Phys. Plasmas* 19 (2012) 072309
57. G. Witvoet, M. Steinbuch, M.R. de Baar, N.J. Doelman, E. Westerhof, Sawtooth period control strategies and designs for improved performance, *Nucl. Fusion* 52 (2012) 074005
58. G.S. Yun, W. Lee, M.J. Choi, J. Lee, H.K. Park, C.W. Domier, N.C. Luhmann, B. Tobias, A.J.H. Donne, J.H. Lee et al., Two-dimensional imaging of edge-localized modes in KSTAR plasmas unperturbed and perturbed by $n=1$ external magnetic fields, *Phys. Plasmas* 19 (2012) 6
59. G.S. Yun, H.K. Park, W. Lee, M.J. Choi, G.H. Choe, S. Park, Y.S. Bae, K.D. Lee, S.W. Yoon, Y.M. Jeon et al., Appearance and Dynamics of Helical Flux Tubes under Electron Cyclotron Resonance Heating in the Core of KSTAR Plasmas, *Phys. Rev. Lett.* 109 (2012) 145003

Publications in other journals and conference proceedings: 23

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Invited lectures at conferences and meetings: 12

1. Plasma Theory Group Seminars, Oxford University, 2012/07/17, Oxford, UK, J. Citrin, Comparison between ion temperature profile stiffness observations and nonlinear gyrokinetic simulations
2. CCFE Fusion Theory Meeting, 2012/04/11, Culham, UK, J. Citrin, C. Bourdelle, P. Cottier, D.F. Escande,  .D. G rcan, G.M.D. Hogewei, F. Jenko, M.J. P schel, Quasilinear transport modeling at low magnetic shear
3. 22nd International Toki Conference on Advanced Physics in Plasma and Fusion Research, 2012/11/19, Toki-city, Japan, A.J.H. Donn , From present Fusion Devices to DEMO: a changing Role between Diagnostics and Modeling
4. Department of Applied Physics, Rijksuniversiteit Gent, 2012/11/12, Gent, Belgium, A.J.H. Donn , Plasma diagnostics in view of ITER
5. Seminar University of California Department of Electrical Engineering, 2012/10/15, Davis, USA, A.J.H. Donn , Microwave diagnostics for contemporary devices, for ITER, and for DEMO
6. International Board of Advisors of IPP/CR, 2012/09/17, Prague, Czech Republic, A.J.H. Donn , A diagnostic dilemma
7. 11th Kudowa Summer School "Towards Fusion Energy", 2012/06/11, Kudowa Zdroj, Poland, A.J.H. Donn , Diagnostics for magnetic fusion devices, IL-2
8. De JET Equilibrium Workshop at CCFE, 2012/11/16, Culham, UK, G. Hommen, M.R. de Baar, J. Citrin, H.J. de Blank, R. Voorhoeve, M. De Bock, A fast, non-iterative flux surface estimation and q-profile reconstruction algorithm for feedback control of plasma profiles
9. 22nd International Toki Conference on Advanced Physics in Plasma and Fusion Research, 2012/11/19, Toki-city, Japan, H.K. Park, G.S. Yun, W. Lee, M. Choi, M. Kim, C.W. Domier, N.C. Luhmann Jr., X.Q. Lu, A.J.H. Donn , Validation of MHD physics via 2-D ECE imaging in toroidal plasmas and perspective of 3-D imaging in KSTAR
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11. 19th Topical Conference on High-Temperature Plasma Diagnostics, 2012/05/06, Monterey, CA, USA, B.J. Tobias, M.E. Austin, J.E. Boom, K.H. Burrell, I.G.J. Classen, C.W. Domier, N.C. Luhmann Jr., R. Nazikian, P.B. Snyder, ECE-imaging of the H-mode pedestal (invited)
12. KSTAR K* Conference 2012, 2012/02/22, Muju, South-Korea, G.S. Yun, M.J. Choi, J. Lee, G.H. Choe, J. Leem, Y. Nam, M. Kim, W. Lee, H.K. Park, C.W. Domier et al., ECEI 2D visualization of MHD instabilities and prospect to 3D imaging in KSTAR

Other oral and poster presentations at (international) conferences and meetings: 91

1. 2nd PhD Event in Fusion Science and Engineering, 2012/10/22, Pont- -Mousson, France, B. Ayten, E. Westerhof, Integrated Modelling of the Stabilisation of Tearing Modes with ECCD
2. 39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, B. Ayten, E. Westerhof, Dynamical Modelling of Neoclassical Tearing Mode Suppression by ECCD, P4-049
3. American Control Conference (ACC 2012) IEEE, 2012/06/27, Montreal, Canada, M. van Berkel, G. Witvoet, M.R. de Baar, P.W.J.M. Nuij, H.G. ter Morsche, M. Steinbuch, Real-time period determination for relaxation oscillators using wavelets, FrA16.6

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5. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, M. van Berkel, G.M.D. Hogeweij, M.R. de Baar, Determination of localized heat transport in fusion plasmas, A1
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7. 24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, M. Beurskens, L. Frassinetti, C. Maggi, G. Calabro, B. Alper, C. Bourdelle, C. Angioni, S. Brezinsek, P. Buratti, C. Challis et al., L-H Power Threshold, Pedestal Stability and Confinement in JET with a Metallic Wall, P7-20
8. SOFT 2012 27th Symposium on Fusion Technology, 2012/09/24, Liège, Belgium, H. Boessenkool, D.A. Abbink, C.J.M. Heemskerk, M. Steinbuch, M.R. de Baar, J.G.W. Wildenbeest, Challenges in human-in-the-loop tele-operated maintenance at ITER, P4.123
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10. 39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, T. Bolzonella, S. Benkadda, I. Chapman, P. de Vries, T. Fujita, M. Furukawa, G. Giruzzi, S.C. Guo, S. Ide, A. Isayama et al., Recent studies in support to MHD stability and control on JT-60SA, P4.025
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12. 17th Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 2012/05/07, Deurne, The Netherlands, F. Bouquey, E. Corbel, R. Magne, G. Giruzzi, D. Thouvenin, M.R. de Baar, P.W.J.M. Nuij, J. Moerel, E. Wittebol, J. van Helvoirt et al., Upgrade of the ECRH antenna on the Tore Supra tokamak, P2-09
13. 17th Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 2012/05/07, Deurne, The Netherlands, H. van den Brand, M.R. de Baar, N.J. Lopes Cardozo, E. Westerhof, The application of ECE as sensor in a control loop for the suppression of instabilities on ITER, ITER ECE
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17. 54th Annual Meeting of the APS Division of Plasma Physics, 2012/10/29, Providence, Rhode Island, USA, M.J. Choi, G.S. Yun, W. Lee, H.K. Park, C.W. Domier, N.C. Luhmann Jr., A.J.H. Donné, S.G. Lee, Analysis of high resolution 2-D images of the $m/n=2/1$ tearing mode in KSTAR RMP experiments, BP8.105
18. 9th ITPA Transport & Confinement Topical Group Meeting, 2012/10/15, San Diego, USA, J. Citrin, C. Bourdelle, J.W. Haverkort, G.M.D. Hogeweij, F. Jenko, P. Mantica, D. Told, Ion temperature profile stiffness: non-linear gyrokinetic simulations and comparison with experiment
19. 17th Joint EU-US Transport Task Force Meeting / 4th EFDA Transport Topical Group Meeting, 2012/09/03, Padova, Italy, J. Citrin, C. Bourdelle, J.W. Haverkort, G.M.D. Hogeweij, F. Jenko, P. Mantica, D. Told, Modelling of the non-local response of transport to peripheral perturbations, P2.13
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22. *Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, J. Citrin, P. Cottier, C. Bourdelle, G.M.D. Hogeweij, F. Jenko, M.J. Pueschel, Quasilinear transport modeling at low magnetic shear, P08.02*
23. *24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, I.G.J. Classen, J. Boom, A. Bogomolov, E. Wolfrum, M. Maraschek, W. Suttrop, P.C. de Vries, A.J.H. Donné, B. Tobias, C. Domier et al., Characterization of Temperature Fluctuations during Type-I and Type-II Edge Localized Modes at ASDEX Upgrade, P4-07*
24. *20th PSI Conference 2012, 2012/05/21, Aachen, Germany, D. Douai, S. Brezinsek, H.G. Esser, E. Joffrin, T. Keenan, S. Knipe, D. Kogut, S. Marsen, I. Nunes, V. Philipps et al., Wall conditioning of JET with ITER Like Wall (ILW), P3-075*
25. *SOFT 2012 27th Symposium on Fusion Technology, 2012/09/24, Liège, Belgium, L. Duisings, S. van Til, L. Magielsens, D.M.S. Ronden, B.S.Q. Elzendoorn, C.J.M. Heemskerck, Applying HAZOP analysis in assessing remote handling compatibility of ITER port plugs, P1.187*
26. *39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, B. van Es, B. Koren, H.J. de Blank, Numerical modelling of strongly anisotropic dissipative effects in MHD, P5-024*
27. *24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, B. van Es, B. Koren, H.J. de Blank, Finite difference schemes for anisotropic diffusion, A21*
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29. *24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, F. Felici, O. Sauter, M.R. de Baar, S. Coda, B. Duval, T. Goodman, G. Hommen, J.M. Moret, M. Steinbuch, R. Voorhoeve, Real-time Model-based Reconstruction and Control of Tokamak Plasma Proles, EXIP3-12*
30. *17th Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, 2012/05/07, Deurne, The Netherlands, L. Figini, D. Farina, N.B. Marushchenko, E. Poli, E. Westerhof, J. Decker, Y. Peysson, Benchmarking of electron cyclotron heating and current drive codes on ITER scenarios within the European Integrated Tokamak Modelling framework, P2-01*
31. *39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, L. Frassinetti, M. Beurskens, B. Alper, C. Bourdelle, S. Brezinsek, P. Buratti, J. Bucalossi, F. Crisanti, C. Challis, J. Flanagan et al., Core versus edge confinement in JET with the ILW compared to the CFC first-wall, P4-072*
32. *39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, D. Frigione, M. Clever, M. Beurskens, A. Boboc, S. Brezinsek, G. Calabro, P. de Vries, L. Garzotti, E. Giovannozzi, M. Groth et al., Characterisation of L-mode plasmas in the new ITER-like Wall in JET, P1-035*
33. *24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, M. Garcia-Munoz, S. Akaslampolo, O. Asunta, J. Boom, X. Chen, I.G.J. Classen, R. Dux, T.E. Evans, S. Fietz, R.K. Fisher et al., Fast-ion redistribution and loss due to edge perturbations in the ASDEX Upgrade, DIII-D and KSTAR tokamaks, P6-03*
34. *39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, L. Garzotti, C. Bourdelle, J. Citrin, F. Koechl, J. Lonroth, S. Moradi, V. Parail, I. Voitsekhover, P. Belo, J.P. Bizarro et al., Simulations of density profiles in JET hybrid discharges, P1.004*
35. *SOFT 2012 27th Symposium on Fusion Technology, 2012/09/24, Liège, Belgium, R. Gessner, G. Aiello, G. Grossetti, A. Meier, D.M.S. Ronden, P. Spaeh, T. Scherer, S. Schreck, D. Strauss, A. Vaccaro, The ITER EC H&CD upper launcher: Design, analysis and testing of a bolted joint for the Blanket Shield Module, P3.110*
36. *24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, C. Giroud, M. Oberkofler, D. Douai, G. Maddison, M. Beurskens, S. Brezinsek, J.W. Coenen, T. Dittmar, A. Drenik, L. Frassinetti et al., Nitrogen Seeding for Heat Load Control in JET ELMy H-mode Plasmas and its Compatibility with ILW Materials, P5-30*
37. *54th Annual Meeting of the APS Division of Plasma Physics, 2012/10/29, Providence, Rhode Island, USA, J.P. Goedbloed, Constructing the spectral web of rotating plasmas, PO7.2*
38. *54th Annual Meeting of the APS Division of Plasma Physics, 2012/10/29, Providence, Rhode Island, USA, J.P. Goedbloed, R. Keppens, Stability of magnetic flux ropes with background flow, NM9.4*
39. *39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, T.P.*

- Goodman, F. Felici, M. Lauret, G. Witvoet, M.R. de Baar, G. Vandersteen, G. Canal, S. Coda, B.P. Duval, D. Kim et al., *Real-time control of MHD instabilities with multi-source EC actuators*, P2-029
40. SOFT 2012 27th Symposium on Fusion Technology, 2012/09/24, Liège, Belgium, G. Grossetti, R. Geßner, G. Aiello, C.J.M. Heemskerk, B.S.Q. Elzendoorn, J.F. Koning, A. Meier, D.M.S. Rondén, P. Späh, T. Scherer et al., *The ITER EC H&CD Upper Launcher: Vertical Remote Handling applied to the BSM maintenance*, P1.111
 41. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, J.W. Haverkort, H.J. de Blank, B. Koren, *A stabilizing effect of flow shear due to the Coriolis effect in rotating magnetized plasmas*, A6
 42. Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, J.W. Haverkort, H.J. de Blank, B. Koren, *Magneto-hydrodynamic instabilities in rotating plasmas*, PA02.01
 43. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, J.N. Hawke, R. Scannell, G. Naylor, *Design trade-offs an ITER LIDAR spectrometer*, A7
 44. SOFT 2012 27th Symposium on Fusion Technology, 2012/09/24, Liège, Belgium, C.J.M. Heemskerk, P.T. Eendebak, G.Y.R. Schropp, V. Hermes, B.S.Q. Elzendoorn, L.J. Magielsens, *Introducing artificial depth cues to improve task performance in ITER maintenance actions*, P3.103
 45. 17th Joint EU-US Transport Task Force Meeting / 4th EFDA Transport Topical Group Meeting, 2012/09/03, Padova, Italy, G.M.D. Hogewei, H.J. Sun, P.H. Diamond, J. Citrin, *Modelling of the non-local response of transport to peripheral perturbations*, P3-9
 46. Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, G. Hommen, P.W.J.M. Nuij, M. De Bock, M.R. de Baar, *A real time flux surface estimate in nuclear fusion plasmas*, P08.13
 47. 24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, R. Imazawa, Y. Kawano, M. De Bock, F. Levinton, N. Hawkes, M. Beurskens, P. McCarthy, C. Watts, R. Barnsley, M. von Hellermann et al., *Analysis of Current Profile Measurement Capability on ITER*, P5-38
 48. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, M.A. Jacobs, M. Lauret, R.J.E. Jaspers, M.R. de Baar, *Burn control with confinement time actuation*, A9
 49. Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, R. Jaspers, A. Kappatou, M. Jakobs, M. Scheffer, *Light from ITER*, PA02.04
 50. 54th Annual Meeting of the APS Division of Plasma Physics, 2012/10/29, Providence, Rhode Island, USA, M.A. Jaworski, T. Abrams, R. Ellis, A. Khodak, B. LeBlanc, J. Menard, M. Ono, C.H. Skinner, D.P. Stotler, G.C. De Temmerman et al., *Collaborative Research and Development on Liquid Metal Plasma Facing Components*, PP8.32
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 52. 24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, E. Joffrin, J. Bucalossi, P. Lomas, F. Rimini, R. Neu, I.M. Ferreira Nunes, M. Baruzzo, M. Beurskens, C. Bourdelle, S. Brezinsek et al., *Scenarios Development at JET with the New ITER-like Wall*, Talk EX/1-1
 53. 20th PSI Conference 2012, 2012/05/21, Aachen, Germany, M.Y. Kantor, M. Tsalas, A. Litnovsky, D. Rudakov, S. Bozhenkov, S. Ratynskaia, N. Ashikawa, A. Pospieszczyk, V. Philipps, *Characterization of dust particles in the TEXTOR tokamak with Thomson scattering diagnostic*, P2-021
 54. Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, A. Kappatou, R. Jaspers, M. Scheffer, *Impurities in a fusion reactor*, P08.03
 55. 22nd International Toki Conference on Advanced Physics in Plasma and Fusion Research, 2012/11/19, Toki-city, Japan, M. Kim, X.Q. Xu, G.S. Yun, J. Lee, H.K. Park, C.W. Domier, N.C. Luhmann Jr., A.J.H. Donné, *Comparison study of 2D images of ELMs by ECEI with BOUT++ simulations in KSTAR H-mode plasmas*
 56. 39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, G. Kocsis, L. Barrera, J.E. Boom, T. Craciunescu, G. Cseh, P.T. Lang, N.C. Luhmann Jr., G. Náfrádi, H.K. Park, T. Szepesi, *Investigating pellet ablation dynamics at ASDEX Upgrade*, P1-093
 57. 39th EPS Conference on Plasma Physics, 16th International Congress on Plasma Physics, 2012/07/02, Stockholm, Sweden, D. Kogut, D. Douai, S. Brezinsek, T. Keenan, S. Knipe, U. Kruezi, P. Lomas, G. Matthews, S. Marsen, I. Nunes et al., *Study of JET conditioning with ITER-Like Wall*, P4.081

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Public events: 11

1. *Students of the Eindhoven University of Technology, 2012/10/26, Eindhoven, Netherlands, A.J.H. Donné, The Dutch Fusion Programme*
2. *Stichting Weer- en Sterrenkunde Eemsmond, 2012/10/03, Appingedam, Netherlands, A.J.H. Donné, Fusie: een zon op aarde*
3. *Haagse Hogeschool Delft, 2012/10/01, Delft, Netherlands, A.J.H. Donné, Fusion: van fictie naar realiteit*
4. *Maatschappij tot NUT van 't Algemeen, 2012/09/27, Twisk, Netherlands, A.J.H. Donné, Fusie: elektriciteit uit energie van de sterren*
5. *Visitors at DIFFER from the International Conference of Physics Students, 6 - 10 August, Utrecht, 2012/08/08, Nieuwegein, Netherlands, A.J.H. Donné, Nuclear Fusion - harnessing the energy of the sun*
6. *Seminar Universiteit Twente, 2012/04/24, Enschede, Netherlands, A.J.H. Donné, Nuclear Fusion: Harnessing the energy of the sun*
7. *Studium Generale Universiteit Twente, 2012/03/13, Enschede, Netherlands, A.J.H. Donné, Kernfusie - van droom naar werkelijkheid*
8. *KlM Seniorenkring Wassenaar, 2012/03/12, Wassenaar, Netherlands, A.J.H. Donné, Kernfusie - een grote technologische en wetenschappelijke uitdaging*
9. *Stichting JC van der Meulen, 2012/03/09, Hoorn, Netherlands, A.J.H. Donné, Kernfusie - een zon op aarde*
10. *Workshop Sustainability Course, Universiteit Twente, 2012/06/22, Enschede, Netherlands, E. Westerhof, Nuclear Fusion: putting the sun in a bottle*
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Media: 14

1. *Kernfusie testen vanuit Nederland, ScienceGuide, 2012/10/02, Interview with: M.R. de Baar*
2. *De Jongensdroom van Marco de Baar, Intermediair, 2012/07/02, Interview with: M.R. de Baar*
3. *Zonnebogen in computermodel, ExperimentNL, 2012/11/23, Interview with: J.W.S. Blokland*
4. *Natuurkundig ingenieur wint Shell Afstudeerprijs voor Natuurkunde 2012, EngineeringNet, 2012/12/14, Interview with: H. van den Brand*
5. *Eilanden ontdekken in kernfusiereactor, TU/e Cursor, 2012/05/03, Interview with: H. van den Brand*
6. *Zonnegod ITER, De Telegraaf, 2012/12/29, Interview with: A.J.H. Donné*
7. *Politiek plasma, De Volkskrant, 2012/12/01, Interview with: A.J.H. Donné*
8. *Hollandse bedrijven jagen op kernfusie, De Telegraaf, 2012/08/07, Interview with: A.J.H. Donné*
9. *Nieuwe materialen voor de JET-tokamak, NTVN, 01/2012, Interview with: A.J.H. Donné*
10. *Kernfusietechnologen: TU/e leidt ze op, Slash (TU/e corporate magazine), 2012/12/01, Interview with: General coverage*
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PhD theses: 2

1. K. Beks-Peerenboom, *Modeling of magnetized expanding plasmas*, PhD thesis at the Eindhoven University of Technology, 2012/07/05, Promotor: W.J. Goedheer
2. R.C. Wieggers, *B2.5-Eunomia simulations of Pilot-PSI*, PhD thesis at Eindhoven University of Technology, 2012/12/19, Promotor: W.J. Goedheer, M.C.M. van de Sanden

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2. G. De Temmerman, K. Bystrov, J.J. Zielinski, M. Balden, G. Matern, C. Arnas, L. Marot, *Nanostructuring of molybdenum and tungsten surfaces by low-energy helium ions*, *J. Vac. Sci. Technol. A* 30 (2012) 041306
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4. M.H.J. t Hoen, B. Tyburska-Puschel, K. Ertl, M. Mayer, J. Rapp, A.W. Kleyn, P.A.Z. van Emmichoven, *Saturation of deuterium retention in self-damaged tungsten exposed to high-flux plasmas*, *Nucl. Fusion* 52 (2012) 023008
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1. G.J. van Rooij, *Laboratory experiments and devices to study plasma surface interaction*, *Fusion Sci. Technol.* 61 (2012) 266-272
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Invited lectures at conferences and meetings: 9

1. *Joint symposium NRSC-Catalysis/BioSolar Cells' program Solar Fuels, 2012/11/01, Eindhoven, Netherlands, G. De Temmerman, Overview of the first results from the Magnum-PSI high flux device.*
2. *AVS 59th Annual International Symposium and Exhibition, 2012/10/28, Tampa, Florida, USA, G. De Temmerman, K. Bystrov, M.J. Baldwin, R.P. Doerner, L. Marot, H.Y. Xu, M.C.M. van de Sanden, Surface modifications induced by extreme fluxes of low-energy ions, PS2-WeA1*
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4. *20th PSI Conference 2012, 2012/05/21, Aachen, Germany, G.C. De Temmerman, Helium Effects On Tungsten Under Fusion-Relevant Plasma Loading Conditions*
5. *24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, W.J. Goedheer, R.C. Wieggers, G.A. van Swaaij, K.S.C. Peerenboom, Numerical modeling for Pilot-PSI and Magnus-PSI, the "num" of magnum, M1 (invited)*
6. *20th PSI Conference 2012, 2012/05/21, Aachen, Germany, G.J. van Rooij, Tungsten divertor erosion in all metal devices: lessons from the ITER-like wall of JET and the all tungsten ASDEX Upgrade*
7. *PPDW - Pulsed Plasma Diagnostics Workshop, 2012/09/06, Dublin, Ireland, M.C.M. van de Sanden, Pulsed plasma processing: from controlled pulsed biasing to high power plasma sources*
8. *Summer Annual Conference of the Korean Vacuum Society (43rd) KVS-AVS Joint Symposium – Plasma Surface Interaction, 2012/08/20, Daegu, Korea, M.C.M. van de Sanden, Expanding thermal plasma CVD of silicon thin films and nano-crystals fundamental studies and applications, IT-004*
9. *iPlasmaNano-III Third International Symposium on Plasma Nanoscience and PANPSC-2012 Second International Workshop on Plasma Applications in Nanomaterials and Photovoltaic Solar Cells, 2012/02/26, Nanyang, Singapore, M.C.M. van de Sanden, Thin film and plasma technology for photovoltaics: from fundamentals to industrial application, WS-1*

Other oral and poster presentations at (international) conferences and meetings: 46

1. *54th Annual Meeting of the APS Division of Plasma Physics, 2012/10/29, Providence, Rhode Island, USA, T. Abrams, M.A. Jaworski, R. Kaita, G. De Temmerman, M.A. Gleeson, A.R. Lof, J. Scholten, M.A. van den Berg, H.J. van der Meiden, P. Raman et al., Compositional changes of lithium coatings on TZM molybdenum during plasma bombardment, PP8.33*
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3. *20th PSI Conference 2012, 2012/05/21, Aachen, Germany, M.A. van den Berg, K. Bystrov, R. Pasquet, J.J. Zielinski, G. De Temmerman, Thermographic determination of the sheath heat transmission coefficient in a high density plasma, P1-036*
4. *20th PSI Conference 2012, 2012/05/21, Aachen, Germany, S. Brezinsek, S. Jachmich, M.F. Stamp, A.G. Meigs, J.W. Coenen, K. Krieger, C. Giroud, M. Groth, V. Philipps, S. Grunhagen et al., Residual Carbon Content in the Initial ILW Experiments at JET, P1-083*
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6. *Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, K. Bystrov, C. Arnas, L. Marot, R.S. Al, G. De Temmerman, Nanostructure formation under extreme plasma conditions, PA02.09*
7. *Plasma Processing Science Gordon Research Conference - Plasma and Renewable energy II, 2012/07/22, Smithfield, RI, USA, G. De Temmerman, Plasma-surface interactions in hell: challenges and opportunities of extreme fluxes, Invited Oral*
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10. 20th PSI Conference 2012, 2012/05/21, Aachen, Germany, M. Groth, S. Brezinsek, P. Belo, G. Corrigan, D. Harting, S. Wiesen, M.N.A. Beurskens, M. Brix, M. Clever, J.W. Coenen et al., *Target particle and heat loads in low-triangularity L-mode plasmas in JET with carbon and beryllium/tungsten walls*, P1-017
11. WELTPP-15 15th Workshop on the Exploration of Low Temperature Plasma Physics, 2012/11/22, Kerkrade, Netherlands, N. den Harder, G.J. van Rooij, *Tungsten Inverse Photon Efficiencies Measured in the Linear Plasma Generator Pilot-PSI*, P18
12. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, N. den Harder, H.J. van der Meiden, P.H.M. Smeets, R.S. Al, S. Brons, H.J.N. van Eck, O.G. Kruijt, P.R. Prins, J. Scholten, P.A. Zeijlmans van Emmichoven, *First magnetized plasmas in the linear plasma generator Magnum-PSI*, A5, A25
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21. 24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, M.L. Mayoral, O. Asunta, V. Bobkov, C. Challis, D. Ciric, J.W. Coenen, L. Colas, A. Czarnecka, I. Day, A. Ekedahl et al., *On the Challenge of Plasma Heating with the JET Metallic Wall*, Talk: Session EX/4-3 & TH/3
22. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, H.J. van der Meiden, M.A. van der Berg, S. Brons, A.J.H. Donné, B.J. Hensen, A.R. Lof, N.N. Naumenko, V. Philipps, P.R. Prins, M.C.M. van de Sanden et al., *Laser based diagnostics at Magnum-PSI*, B21
23. WELTPP-15 15th Workshop on the Exploration of Low Temperature Plasma Physics, 2012/11/22, Kerkrade, Netherlands, T. Minea, N. den Harder, G.J. van Rooij, *Assessing Plasma Flow Velocities in Pilot-PSI*, P19
24. PPDW - Pulsed Plasma Diagnostics Workshop, 2012/09/06, Dublin, Ireland, T.W. Morgan, G. De Temmerman, L. Marot, D. Mathys, W. Melissen, J.J. Zielinski, M.C.M. van de Sanden, *Pulsed plasma devices for high-rate nano-material deposition*
25. 20th PSI Conference 2012, 2012/05/21, Aachen, Germany, T. Morgan, J.J. Zielinski, W. Melissen, G. Kaas, B. Hensen, L. Marot, M. Price, G. De Temmerman, *Reduced Damage Threshold For Tungsten Using A Combined Steady State And Transient High Flux Source*, P2-043
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29. 22nd International Toki Conference on Advanced Physics in Plasma and Fusion Research, 2012/11/19, Toki-city, Japan, G.A. van Swaaij, K. Bystrov, D. Borodin, A. Kirschner, G. De Temmerman, W.J. Goedheer, Carbon erosion by high-density H plasma diagnosed with CH emission
30. 20th PSI Conference 2012, 2012/05/21, Aachen, Germany, G. van Swaaij, K. Bystrov, A. Kirschner, L.B. van der Vegt, G. De Temmerman, W.J. Goedheer, Carbon Transport and Escape Fraction in a High Density Plasma Beam, P1-096
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35. WELTPP-15 15th Workshop on the Exploration of Low Temperature Plasma Physics, 2012/11/22, Kerkrade, Netherlands, S. Welzel, S.A. Starostin, H. de Vries, M.C.M. van de Sanden, R. Engeln, Scaling Parameter for High-Current Dielectric Barrier Discharges Applied to the Synthesis of Silica-Like Layers, O16
36. AVS 59th Annual International Symposium and Exhibition, 2012/10/28, Tampa, Florida, USA, S. Welzel, S.A. Starostin, H. de Vries, M.C.M. van de Sanden, R. Engeln, Infrared gas phase studies in high-current dielectric barrier discharges applied in roll-to-roll deposition of silica-like layers at atmospheric pressure, PS+TC-WeM2
37. 5th Int. Workshop on Plasma Spectroscopy (IPS 2012), 2012/05/13, Presqu'île de Giens, France, S. Welzel, S.A. Starostin, H. de Vries, M.C.M. van de Sanden, R. Engeln, Infrared gas phase studies in high-current dielectric barrier discharges containing organo-silicon precursors
38. 5th Int. Workshop on Plasma Spectroscopy (IPS 2012), 2012/05/13, Presqu'île de Giens, France, S. Welzel, S.A. Starostin, H. de Vries, M.C.M. van de Sanden, R. Engeln, Infrared gas phase studies in air-like atmospheric pressure DBDs
39. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, S. Welzel, S.A. Starostin, H. de Vries, M.C.M. van de Sanden, R. Engeln, Gas phase IR absorption studies of air-like atmospheric pressure DBDs, O11
40. 20th PSI Conference 2012, 2012/05/21, Aachen, Germany, R. Wieggers, D.P. Coster, P.W.C. Groen, H.J. de Blank, B2.5-Eunomia simulations of Pilot-PSI and Magnum-PSI plasmas, P1-101
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43. 20th PSI Conference 2012, 2012/05/21, Aachen, Germany, H.Y. Xu, K. Bystrov, G. De Temmerman, G.-N. Luo, Y. Yuan, B.Q. Fu, W. Liu, Dependence of blister formation on tungsten microstructure under ITER divertor-relevant plasma conditions, P2-088
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Prizes: 1

1. B.A. Hennen, 2012 EPS Thesis prize, 2012

Public events: 1

1. 2012/10/16, M.H.J. t Hoen, Dance Your Ph.D. is een internationale wedstrijd die wetenschappers uitdaagt hun onderzoek in dans te vangen. Rianne 't Hoen, promovenda bij FOM-instituut DIFFER, won de publieksprijs met haar creatie The Great Escape

Media: 13

1. Diamant als wand kernfusie-centrales, Metaal Magazine, 2012/07/12, Interview with: G.C. De Temmerman
2. Kernfusie in een reactor van diamant, Engineers Online, 2012/07/11, Interview with: G.C. De Temmerman
3. Dutch plasma facility reveals new problems for ITER, Physics World, 2012/06/01, Interview with: G.C. De Temmerman
4. De zon in een doosje, Trouw, 2012/03/22, Interview with: G.C. De Temmerman, A.J.H. Donn 
5. Giving materials hell, EFDA.org, 2012/02/01, Interview with: G.C. De Temmerman
6. Plasma-experiment officieel van start, www.kennislink.nl, 02/2012, Interview with: General coverage
7. Launching the exploration of the unknown, www.iter.org, 02/2012, Interview with: General coverage
8. DIFFER unveils Magnum-PSI, www.fusenet.eu, 02/2012, Interview with: General coverage
9. Waar gaat dat onderzoek over? Dans je PhD!, DANS Magazine, 2012/10/25, Interview with: M.H.J. t Hoen
10. Dansen voor de wetenschap, NRC Handelsblad, 2012/10/17, Interview with: M.H.J. t Hoen
11. Dancing with the theses, The Project, 2012/10/16, Interview with: M.H.J. t Hoen
12. Dans je onderzoek, Eos Magazine, 2012/10/10, Interview with: M.H.J. t Hoen
13. Dance Your Ph.D. Finalists Announced; Pick Your Favorite, Science Magazine, 2012/10/09, Interview with: M.H.J. t Hoen

Education: 3

1. H. Tober, Lessons module "Meten van licht uit plasma's" for upper level physics students at secondary schools. FOM-project 'vwo-docent-onderzoekers', 2012
2. Lecture Universiteit Antwerpen, 2012/04/20, Antwerpen, Belgium, M.C.M. van de Sanden, Plasma's voor een duurzame samenleving (4 lectures)
3. De Huygens collegereeks "Klimaat, Energie & Duurzame Ontwikkeling 2012", 2012/09/24, Radboud Universiteit Nijmegen, Netherlands, M.C.M. van de Sanden, Brandstoffen uit herwinbare energie: een mogelijke oplossing voor energie opslag en transport

MaSF

Invited lectures at conferences and meetings: 8

1. *TNO Expert meeting Chemenergy: chemie en energie verbonden, 2012/03/21, Delft, Netherlands, W.A. Bongers, M.C.M. van de Sanden, A.P.H. Goede, Solar Fuels Research by DIFFER: Development of efficient Solar Fuels processes and devices by using innovative plasma chemistry and materials processing*
2. *Workshop EERA Chemical Energy Storage, CEA, 2011/12/13, Paris, France, A.P.H. Goede, W.A. Bongers, M. Graswinckel, P.W.C. Groen, R. Engeln, S. Welzel, S. Pondory, F. Brehmer, M. Ming, M. Leins et al., Power efficient conversion of CO₂ using into CO and O₂ by plasma activation*
3. *Joint symposium NRSC-Catalysis/BioSolar Cells' program Solar Fuels, 2012/11/01, Eindhoven, Netherlands, M.C.M. van de Sanden, Power efficient plasma activation of CO₂*
4. *5P - Plasma Processes: Past, Present and Perspectives workshop in honour of Professor Riccardo d'Agostino in occasion of his 70th birthday, 2012/06/21, Bari, Italy, M.C.M. van de Sanden, Renewable energy storage in chemical fuels for CO₂ neutral energy generation: a plasma perspective*
5. *Symposium New Concepts for Solar Energy Conversion, Delft University of Technology, 2012/04/17, Delft, Netherlands, M.C.M. van de Sanden, Solar fuels: a plasma perspective*
6. *iPlasmaNano-III Third International Symposium on Plasma Nanoscience and PANPSC-2012 Second International Workshop on Plasma Applications in Nanomaterials and Photovoltaic Solar Cells, 2012/02/26, Nanyang, Singapore, M.C.M. van de Sanden, Renewable energy storage in chemical fuels for CO₂ neutral energy generation: A plasma perspective, K-13*
7. *The Four Kingdoms Initiative Workshop on Several Alternative uses of CO₂, 2012/01/30, Rotterdam, The Netherlands, M.C.M. van de Sanden, Re-use of CO₂ to generate Solar Fuels*
8. *7th European Summer School "Low Temperature Plasma Physics: Basics and Applications", Master Class "Plasma and Environment", 2012/10/11, Bad Honnef, Germany, S. Welzel, F. Brehmer, S. Ponduri, M.C.M. van de Sanden, R. Engeln, A plasma perspective on solar fuels and CO₂ reduction*

Other oral and poster presentations at (international) conferences and meetings: 13

1. *2nd Biennial CO₂ Workshop, Department of Chemistry, Princeton University, 2012/11/09, Princeton, NJ, USA, W.A. Bongers, A.P.H. Goede, M. Graswinckel, J. Kopecki, M. Leins, A. Schulz, M. Walker, M.C.M. van de Sanden, Power efficient activation of CO₂ using nonequilibrium plasma*
2. *Gordon research conference: Renewable Energy: Solar Fuels, 2012/05/13, Lucca, Italy, M.C.M. van de Sanden, W.A. Bongers, A.P.H. Goede, M. Graswinckel, J. Kopecki, M. Leins, A. Schulz, M. Walker, Renewable energy storage in chemical fuels for CO₂ neutral energy generation: a plasma perspective*
3. *WELTPP-15 15th Workshop on the Exploration of Low Temperature Plasma Physics, 2012/11/22, Kerkrade, Netherlands, F. Brehmer, S. Welzel, M.C.M. van de Sanden, R. Engeln, CO₂ Dissociation in Atmospheric Pressure Plasmas, O12*
4. *WELTPP-15 15th Workshop on the Exploration of Low Temperature Plasma Physics, 2012/11/22, Kerkrade, Netherlands, F. Brehmer, S. Welzel, H.J. van der Meiden, M.C.M. van de Sanden, R. Engeln, Thomson Scattering on an Atmospheric Pressure DBD in CO₂, P21*
5. *5th Int. Workshop on Plasma Spectroscopy (IPS 2012), 2012/05/13, Presqu'île de Giens, France, F. Brehmer, S. Welzel, M. van der Schans, S. Ponduri, M.C.M. van de Sanden, R. Engeln, CO₂ Conversion in an Atmospheric Pressure Dielectric Barrier Discharge*
6. *5th Int. Workshop on Plasma Spectroscopy (IPS 2012), 2012/05/13, Presqu'île de Giens, France, F. Brehmer, S. Welzel, S. Ponduri, M.C.M. van de Sanden, R. Engeln, Dissociation study on CO₂ in an atmospheric pressure plasma*
7. *24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, F. Brehmer, S. Welzel, M. van der Schans, S. Ponduri, M.C.M. van de Sanden, R. Engeln, CO₂ conversion in an atmospheric pressure DBD, A3*
8. *DPG - Frühjahrstagung, 2012/03/01, Jena, Deutschland, F. Brehmer, S. Welzel, S. Ponduri, M.C.M. van de Sanden, R. Engeln, CO₂ dissociation in atmospheric pressure plasmas*

9. WELTPP-15 15th Workshop on the Exploration of Low Temperature Plasma Physics, 2012/11/22, Kerkrade, Netherlands, S. Ponduri, D.M.H.G. Mestrom, S. Welzel, F. Brehmer, M.C.M. van de Sanden, R. Engeln, Characterization of a Symmetric Dielectric Barrier Discharge Using Optical Emission Spectroscopy, P31
10. 5th Int. Workshop on Plasma Spectroscopy (IPS 2012), 2012/05/13, Presqu'île de Giens, France, S. Ponduri, S. Welzel, F. Brehmer, M. Ma, M.C.M. van de Sanden, R. Engeln, Plasma-assisted CO₂ reduction in synthetic fuel processing
11. 24th Symposium Plasma Physics and Radiation Technology, 2012/03/06, Lunteren, The Netherlands, S. Ponduri, S. Welzel, F. Brehmer, M. Ma, M.C.M. van de Sanden, R. Engeln, Plasma assisted CO₂ reduction for synthetic fuels, A18
12. 24th Fusion Energy Conference (IAEA), 2012/10/08, San Diego, USA, T. Pütterich, R. Dux, M. Beurskens, V. Bobkov, S. Brezinsek, J. Bucalossi, J.W. Coenen, I. Coey, A. Czarnicka, E. Jorin et al., Tungsten Screening and Impurity Control in JET, EXI P3-15
13. AVS 59th Annual International Symposium and Exhibition, 2012/10/28, Tampa, Florida, USA, S. Welzel, S. Ponduri, F. Brehmer, M. Ma, M.C.M. van de Sanden, R. Engeln, Plasma-assisted CO₂ conversion as candidate element in future solar fuel economy, EN+PS-WeM3

Public events: 6

1. NWO workshop CO₂ Neutral fuels, 2012/11/27, Woerden, Netherlands, W.A. Bongers, S. Welzel, K.S.C. Peerenboom, A.P.H. Goede, M. Graswinckel, P.W.C. Groen, M. Leins, J. Kopecki, A. Schulz, M. Walker et al., Vibrationally Stimulated CO₂ Dissociation in Non-Thermal Expanding Plasmas
2. Essent Hoofdkantoor, 2012/05/07, 's-Hertogenbosch, Netherlands, W.A. Bongers, M.C.M. van de Sanden, A.P.H. Goede, M. Leins, Solar Fuels Research by DIFFER: Development of efficient Solar Fuels processes and devices by using innovative plasma chemistry and materials processing. First results of tests
3. Ondernemersclub Tilburg, 2012/03/20, Brasschaat, Belgium, M.C.M. van de Sanden, CO₂ neutrale productie van zonnebrandstoffen uit kooldioxide en water
4. Colloquia Department of Physics, University of York, 2012/11/14, York, UK, M.C.M. van de Sanden, Renewable energy storage in chemical fuels for CO₂ neutral energy generation: a plasma perspective
5. IoP Colloquium, Institute of Physics, UvA, 2012/10/11, Amsterdam, Netherlands, M.C.M. van de Sanden, A plasma perspective
6. Alumnidag 2012 Eindhoven University of Technology, 2012/04/21, Eindhoven, Netherlands, M.C.M. van de Sanden, Brandstof van zonlicht?

Media: 4

1. De toekomst in met zonnebrandstof, Kennislink, 2012/08/24, Interview with: M.C.M. van de Sanden
2. Groene stroom gaat vloeien, Natuurwetenschap en Techniek, 2012/06/01, Interview with: M.C.M. van de Sanden, W.A. Bongers
3. Zonne-energie opslaan in koolwaterstoffen: brandstofbuffer, De Ingenieur, 2012/05/18, Interview with: M.C.M. van de Sanden, W.A. Bongers
4. Brandstof uit CO₂, geen gebakken lucht, Trouw, Interview with: M.C.M. van de Sanden

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PhD theses: 1

1. E. Louis, *Physics and technology development of multilayer EUV reflective optics*, PhD thesis at the University of Technology Twente, 2012/11/23, Promotor: F. Bijkerk

Publications in peer-reviewed scientific journals: 28

1. M. Bayraktar, W. Wessels, C.J. Lee, F. Van Goor, G. Koster, G. Rijnders, F. Bijkerk, *Active multilayer mirrors for reflectance tuning at extreme ultraviolet (EUV) wavelengths*, *J. Phys. D: Appl. Phys.* 45 (2012) 494001
2. V.D. Blank, S.G. Buga, V.A. Kulbachinskii, V.G. Kytin, V.V. Medvedev, Y.M. Popov, P.B. Stepanov, V.F. Skok, *Thermoelectric properties of Bi_{0.5}Sb_{1.5}Te₃/C₆₀ nanocomposites*, *Phys. Rev. B* 86 (2012) 075426
3. A.J.R. van den Boogaard, F.A. van Goor, E. Louis, F. Bijkerk, *Wavelength separation from extreme ultraviolet mirrors using phaseshift reflection*, *Opt. Lett.* 37 (2012) 160-162
4. A.J.R. van den Boogaard, E. Zoethout, I.A. Makhotkin, E. Louis, F. Bijkerk, *Influence of noble gas ion polishing species on extreme ultraviolet mirrors*, *J. Appl. Phys.* 112 (2012) 123502
5. J. Bosgra, E. Zoethout, A.M.J. van der Eerden, J. Verhoeven, R.W.E. van de Kruijs, A.E. Yakshin, F. Bijkerk, *Structural properties of subnanometer thick Y layers in extreme ultraviolet multilayer mirrors*, *Appl. Opt.* 51 (2012) 8541-8548
6. J. Bosgra, J.W. Verhoeven, R.W.E. van de Kruijs, A.E. Yakshin, F. Bijkerk, *Non-constant diffusion characteristics of nanoscopic Mo-Si interlayer growth*, *Thin Solid Films* 522 (2012) 228-232
7. S. Bruijn, R.W.E. van de Kruijs, A.E. Yakshin, F. Bijkerk, *Ion assisted growth of B₂C diffusion barrier layers in Mo/Si multilayered structures*, *J. Appl. Phys.* 111 (2012) 064303
8. X. Chen, X. Lu, P. He, C. Zhao, W. Sun, P. Zhang, F. Gou, *Deposition and etching of SiF₂ on Si surface: MD study*, *Phys. Procedia* 32 (2012) 885-890
9. C. Cleff, P. Groß, C. Fallnich, H.L. Offerhaus, J. Herek, K. Kruse, W.P. Beeker, C.J. Lee, K.J. Boller, *Ground-state depletion for subdiffraction-limited spatial resolution in coherent anti-Stokes Raman*, *Phys. Rev. A* 86 (2012) 023825
10. J. Gaudin, O. Peyrusse, J. Chalupsky, M. Toufarova, L. Vysin, V. Hajkova, R. Sobierajski, T. Burian, S. Dastjani-Farahani, A. Graf et al., *Amorphous to crystalline phase transition in carbon induced by intense femtosecond x-ray free-electron laser pulses*, *Phys. Rev. B* 86 (2012) 024103
11. J. Gaudin, C. Ozkan, J. Chalupsky, S. Bajt, T. Burian, L. Vysin, N. Coppola, S.D. Farahani, H.N. Chapman, G. Galasso et al., *Investigating the interaction of x-ray free electron laser radiation with grating structure*, *Opt. Lett.* 37 (2012) 3033-3035
12. C. Hahn, J. Shan, Y. Liu, O. Berg, A.W. Kleijn, L.B.F. Juurlink, *Employing a cylindrical single crystal in gas-surface dynamics*, *J. Chem. Phys.* 136 (2012) 114201
13. K.N. Koshelev, V.V. Ivanov, V.G. Novikov, V. Medvedev, A.S. Grushin, V.M. Krivtsun, *RZLINE code modeling of distributed tin targets for laser-produced plasma sources of extreme ultraviolet radiation (vol 11, 021112, 2012)*, *J. Micro-Nanolithogr. MEMS MOEMS* 11 (2012) 029802
14. A.S. Kuznetsov, M.A. Gleeson, F. Bijkerk, *Hydrogen-induced blistering mechanisms in thin film coatings*, *J. Phys.-Condes. Matter* 24 (2012) 052203
15. A.S. Kuznetsov, R. Stuijk, F. Bijkerk, A.P. Shevelko, *Spectral and spatial structure of extreme ultraviolet radiation in laser plasma-wall interactions*, *Plasma Phys. Control. Fusion* 54 (2012) 085019
16. C.J. Lee, K.J. Boller, *The noise-limited-resolution for stimulated emission depletion microscopy of diffusing particles*, *Opt. Express* 20 (2012) 12793-12798
17. F. Liu, C.J. Lee, J.Q. Chen, E. Louis, P.J.M. van der Slot, K.J. Boller, F. Bijkerk, *Ellipsometry with randomly varying polarization states*, *Opt. Express* 20 (2012) 870-878
18. R.A. Loch, R. Sobierajski, E. Louis, J. Bosgra, F. Bijkerk, *Modelling single shot damage thresholds of multilayer optics for high-intensity short-wavelength radiation sources*, *Opt. Express* 20 (2012) 28200-28215
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Invited lectures at conferences and meetings: 2

1. Lorentz workshop on "Dynamical Phenomena at Surfaces: The Role of Complexity", Lorentz Center, Leiden University, 2012/11/26, Leiden, Netherlands, A.W. Kleijn, Nitrogen scattering and reactions at metal surfaces
2. International Workshop on Inelastic Ion-Surface Collisions, 2012/09/16, Island Frauenchiemsee, Germany, A.W. Kleijn, Nitrogen interactions at metal surfaces

Other oral and poster presentations at (international) conferences and meetings: 43

1. 2012 International Workshop on EUV and Soft X-ray Sources, EUV Litho, 2012/10/08, Dublin, Ireland, D. Astakhov, W.J. Goedheer, D. Lopaev, V. Ivanov, O. Yakushev, V.M. Krivtsun, K. Koshelev, F. Bijkerk, 2D PIC modeling of the EUV induced hydrogen plasma and comparison to the observed carbon etching rate
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13. MicroNano Conference 2012 - NanoNextNL, 2012/12/10, Ede, Netherlands, F. Liu, J.M. Sturm, C.J. Lee, F. Bijkerk, Extreme ultraviolet induced oxidation of Ru(0001)
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3. *Lecture at Kings College, London, 2012/03/28, London, UK, E. Louis, EUV and 'Beyond' EUV multilayer research and development at FOM Rijnhuizen*

Media: 4

1. *Spiegeling en Daad, UTwente Magazine, 2012/12/03, Interview with: F. Bijkerk*
2. *Industriële focusgroep XUV Optics, Onderzoek Nederland, 2012/11/30, Interview with: F. Bijkerk*
3. *Nanotechgroep van Differ naar UT, Technisch Weekblad, 2012/05/25, Interview with: General coverage*
4. *MESA+ trekt tien nanotechnologen aan, TVEnschedeFM, 2012/05/09, Interview with: General coverage*

GUTHz

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37. R. Tonner, P. Schwerdtfeger, A.L. May, J.D. Steill, G. Berden, J. Oomens, S.R. Campagna, R.N. Compton, *Stability of Gas-Phase Tartaric Acid Anions Investigated by Quantum Chemistry, Mass Spectrometry, and Infrared Spectroscopy*, *J. Phys. Chem. A* 116 (2012) 4789-4800

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39. U.H. Verkerk, J.F. Zhao, I.S. Saminathan, J.K.C. Lau, J. Oomens, A.C. Hopkinson, K.W.M. Siu, Infrared Multiple-Photon Dissociation Spectroscopy of Tripositive Ions: Lanthanum-Tryptophan Complexes, *Inorg. Chem.* 51 (2012) 4707-4710
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41. T.I. Yacovitch, N. Heine, C. Brieger, T. Wende, C. Hock, D.M. Neumark, K.R. Asmis, Communication: Vibrational spectroscopy of atmospherically relevant acid cluster anions: Bisulfate versus nitrate core structures, *J. Chem. Phys.* 136 (2012) 241102
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44. S. Zou, J. Oomens, N.C. Polfer, Competition between diketopiperazine and oxazolone formation in water loss products from protonated ArgGly and GlyArg, *Int. J. Mass Spectrom.* 316 (2012) 12-17

Invited lectures at conferences and meetings: 11

1. HRSMC Symposium, 2012/11/22, Amsterdam, The Netherlands, H. Alvaro Galué, Dick Stufkens Prize Award Lecture
2. KU Leuven, Laboratorium voor Vaste-Stoffysica en Magnetisme, 2012/10/10, Leuven, Belgium, J.M. Bakker, Infrared structural characterization of transition metal clusters using an Intracavity Free-Electron Laser
3. Laboratoire de Chimie Physique CNRS Université Paris-Sud, 2012/06/28, Orsay, France, J.M. Bakker, Infrared structural characterization of the interaction between transition metals and small molecules
4. LabAstro 2012, Workshop of the SFB 956, 2012/11/21, Bonn, Germany, J. Oomens, Combining mass spectrometry and IR spectroscopy for PAH astrochemistry
5. Massa 2012, Annual meeting of the Division of Mass Spectrometry of the Italian Chemical Society, 2012/07/01, Palermo, Italy, J. Oomens, Bridging the gap between IR spectroscopy and mass spectrometry
6. Radboud University Nijmegen, Institute for Molecules and Materials, 2012/05/03, Nijmegen, Netherlands, J. Oomens, Infrared ion spectroscopy
7. Workshop Exploiting Free Electron Lasers in Chemistry, 2012/04/23, Nottingham, UK, J. Oomens, Molecular structure determination in mass spectrometry by FEL-based ion spectroscopy
8. 34th International Free Electron Laser Conference, 2012/08/26, Nara, Japan, B. Redlich, The Infrared and THz User Facility FELIX in Nijmegen
9. IMAMPC 2012 – International meeting on Atomic and Molecular Physics and Chemistry, 2012/09/12, Pisa, Italy, A.M. Rijs, Probing directed molecular motion by gas phase IR spectroscopy
10. General Physical and Theoretical Chemistry Seminar, Universität Würzburg, 2012/04/26, Würzburg, Deutschland, A.M. Rijs, Probing molecular motors by gas phase IR spectroscopy
11. PhD seminar Physical and Theoretical Chemistry, Universität Würzburg, 2012/04/25, Würzburg, Deutschland, A.M. Rijs, Exploring gas phase IR-UV spectroscopy: towards larger molecules and far-IR wavelengths

Other oral and poster presentations at (international) conferences and meetings: 44

1. Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, H. Alvaro Galué, Superconductors in space?, PA14-04
2. International Mass Spectrometry Conference (IMSC), 2012/09/16, Kyoto, Japan, J.M. Bakker, IR structural characterization of transition metal carbene cations: Ta, W, Ir, Pt
3. International Symposium on Small Particles and Inorganic Clusters (ISSPIC 2012), 2012/06/08, Leuven, Belgium, J.M. Bakker, et al, Cobalt clusters in FELICE light: Geometric and electronic structure
4. International Symposium on Small Particles and Inorganic Clusters (ISSPIC 2012), 2012/06/08, Leuven, Belgium, J.M. Bakker, V.J.F. Lapoutre, Infrared spectroscopy of niobium-CO clusters: evidence for dissociative binding, A87
5. Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, J.M. Bakker, V.J.F. Lapoutre, A. Sweeney, A. Mookerjee, P.B. Armentrout, IR Structural characterization of transition metal-carbene cations: Ta, W, Ir, Pt, P02.47

6. *34th International Free Electron Laser Conference, 2012/08/26, Nara, Japan, G. Berden, J. Oomens, B. Redlich, A.F.G. van der Meer, Applications of Infrared FELs*
7. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics, 2012/05/19, Vancouver, BC, Canada, L. Brückmann, W. Tyrre, S. Mathur, G. Berden, J. Oomens, A. Meijer, M. Schaefer, Examination of the coordination sphere of Al(III) in trifluoromethyl-heteroarylalkenolato-complex-ions by gas-phase IRMPD spectroscopy and computational modeling*
8. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics, 2012/05/19, Vancouver, BC, Canada, R.C. Dunbar, N. Polfer, J. Steill, G. Berden, J. Oomens, Wrapping Peptides Around Metal Ions*
9. *HRSMC Symposium, 2012/11/22, Amsterdam, The Netherlands, J. Gao, et al, Gas phase infrared spectroscopy of anionic polyaromatic species*
10. *NWO Dutch Astrochemistry Network Midterm Meeting, 2012/10/18, Leiden, The Netherlands, J. Gao, Gas phase infrared spectroscopy of anionic polyaromatic species*
11. *36th Annual Meeting NNV AMO Lunteren 2012, 2012/10/09, Lunteren, Netherlands, J. Gao, G. Berden, J. Oomens, Gas-phase infrared spectroscopy of anionic polyaromatic species, P20*
12. *Meeting of the Dutch Astrochemistry Network Section "PAHs", 2012/06/21, Amsterdam, The Netherlands, J. Gao, IR spectroscopy of gas-phase polyaromatic anions*
13. *NWO-CW Study Group Spectroscopy and Theory, 2012/06/15, Utrecht, The Netherlands, J. Gao, et al, IR Spectroscopy of gas-phase polyaromatic anions*
14. *Summer School Chemistry and Infrared Spectroscopy of Interstellar Dust, 2012/06/04, Cuijk, The Netherlands, J. Gao, Gas phase infrared spectroscopy of anionic polyaromatic species*
15. *HRSMC Symposium, 2012/11/22, Amsterdam, The Netherlands, J. Grzetic, et al, Dissociation reactions of peptides with glutamine or asparagine residues*
16. *36th Annual Meeting NNV AMO Lunteren 2012, 2012/10/09, Lunteren, Netherlands, J. Grzetic, G. Berden, J. Oomens, Gas-phase infrared spectroscopy of anionic polyaromatic species, P23*
17. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics, 2012/05/19, Vancouver, BC, Canada, J. Grzetic, Structure of anionic c-type peptide fragments elucidated by IRMPD spectroscopy*
18. *NVMS-BSMS International Congress on Mass Spectrometry, 2012/03/28, Kerkrade, The Netherlands, J. Grzetic, Gas phase peptide fragmentation chemistry elucidated by IRMPD spectroscopy*
19. *Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, J. Grzetic, J. Oomens, Gas phase peptide fragmentation chemistry elucidated by IRMPD spectroscopy, P02.57*
20. *36th Annual Meeting NNV AMO Lunteren 2012, 2012/10/09, Lunteren, Netherlands, S. Jaeqx, M. Schmitt, W.J. van der Zande, A.M. Rijs, Gas-phase infrared spectroscopy of anionic polyaromatic species, P26*
21. *67th International Symposium on Molecular Spectroscopy, 2012/06/18, Columbus, OH, USA, S. Jaeqx, Proton transfer in neutral peptides examined by conformational specific IRIUV spectroscopy*
22. *TULIP 2012, Summer School on 'Modern Developments in Spectroscopy', 2012/04/10, Noordwijk, the Netherlands, S. Jaeqx, J. Oomens, A.M. Rijs, Proton transfer in neutral peptides examined by conformational specific IR-UV spectroscopy*
23. *IBBI 2012 Isolated biomolecules and biomolecular interactions, 2012/01/22, Les Diablerets, Switzerland, S. Jaeqx, D.W.P.M. Löwik, M. Schmitt, W.J. van der Zande, A.M. Rijs, Can collective backbone vibrations reveal the secondary structure of peptides?*
24. *Physics@FOM Veldhoven 2012, 2012/01/17, Veldhoven, Netherlands, J. Jalink, C. van Dijk, J. Bowlan, S. Ghosh, T. Rasing, W. de Heer, M. Katsnelson, O. Eriksson, J.M. Bakker, B. Sanyal et al., Magnetism vs geometry of atomic rare-earth clusters, P03.60*
25. *HRSMC Symposium, 2012/11/22, Amsterdam, The Netherlands, D. Kiawi, et al, Chemistry and physics of Fe and FeS nano clusters probed by action spectroscopy*
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27. *Meeting of the Dutch Astrochemistry Network Section "The Solid Universe", 2012/06/20, Leiden, The Netherlands, D. Kiawi, Elucidating the IR spectrum of Fe and FeS nano clusters with the help of Free Electron Laser for IntraCavity Experiment*

28. *International Symposium on Small Particles and Inorganic Clusters (ISSPIC 2012)*, 2012/06/08, Leuven, Belgium, D. Kiawi, J.M. Bakker, J. Oomens, W.J. Buma, L.B.F.M. Waters, *Chemistry and physics of Fe and FeS nano clusters probed by action spectroscopy*, A98
29. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics*, 2012/05/19, Vancouver, BC, Canada, M. Kullman, R. Dain, G. Berden, J. Oomens, M.J. Van Stipdonk, *IRMPD and DFT Study of Cu(II) and Ni(II) Oxamate Complexes*
30. *HRSMC Symposium*, 2012/11/22, Amsterdam, The Netherlands, V.J.F. Lapoutre, et al, *Activation of methane upon binding to 5d transition metals studied by IR action spectroscopy*
31. *67th International Symposium on Molecular Spectroscopy*, 2012/06/18, Columbus, OH, USA, V.J.F. Lapoutre, *Probing the adsorption of carbon monoxide on transition metal clusters using IR action spectroscopy*
32. *Physics@FOM Veldhoven 2012*, 2012/01/17, Veldhoven, Netherlands, V.J.F. Lapoutre, J. Oomens, J.M. Bakker, *Probing the adsorption of carbon monoxide on transition metal clusters using IR photodissociation spectroscopy*, P02.14
33. *NWO Dutch Astrochemistry Network Midterm Meeting*, 2012/10/18, Leiden, The Netherlands, J. Oomens, *From PAHs to rings, chains and cages*
34. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics*, 2012/05/19, Vancouver, BC, Canada, J. Oomens, *Spectroscopic identification of non-oxazolone b₂ peptide fragments*
35. *10th European Fourier-Transform Mass Spectrometry Workshop*, 2012/04/01, Warwick, UK, J. Oomens, *Structure of anionic b- and c-type peptide fragments by IRMPD spectroscopy*
36. *NVMS-BSMS International Congress on Mass Spectrometry*, 2012/03/28, Kerkrade, The Netherlands, J. Oomens, *Molecular structure in MS by ion spectroscopy: non-equilibrium distributions from ESI*
37. *Physics@FOM Veldhoven 2012*, 2012/01/17, Veldhoven, Netherlands, J. Oomens, S. Jaeqx, A.M. Rijs, *Towards an active site mimic of F0F1-ATPase: proton transfer from glutamic acid to origine*, P02.54
38. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics*, 2012/05/19, Vancouver, BC, Canada, S. Osburn, K. Gulyuz, N. Polfer, G. Berden, J. Oomens, R.A.J. O'Hair, V. Ryzhov, *The structure and reactivity of the radical cation and anion of glutathione via IRMPD spectroscopy and ion-molecule reactions*
39. *ASMS 2012 - 60th ASMS Conference on Mass Spectrometry and Allied Topics*, 2012/05/19, Vancouver, BC, Canada, K. Papson, G. Berden, J. Oomens, D.P. Ridge, *Characterizing the Fragmentation Energetics of the Products of Gas Phase Ion-Molecule Reactions between H₂S and Cadmium Clusters*
40. *36th Meeting of the section Atomic Molecular and Optical Physics (AMO)*, 2012/10/09, Lunteren, The Netherlands, A. Petrigani, *Infrared Multi-Photodissociation of gas-phase PAH cations with FELICE*
41. *The Chemical Cosmos*, 2012/10/02, Catania, Italy, A. Petrigani, *Gas-phase IR spectroscopy of PAH ions using a Free Electron Laser - interests to astrochemistry*
42. *Meeting of the Dutch Astrochemistry Network Section "PAHs"*, 2012/06/21, Amsterdam, The Netherlands, A. Petrigani, *Laboratory study of the IR characteristics of astrochemically relevant PAHs*
43. *34th International Free Electron Laser Conference*, 2012/08/26, Nara, Japan, S. Smolarek, H. Engelkamp, R. Jongma, W.J. van der Zande, F. Wijnen, G. Berden, B. Redlich, *Towards ESR Spectroscopy with FLARE: New Semiconductor Plasma Switches*, Poster THPD03
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