



Contents

Preface	vii
Committees	ix

Section 1. Reviews

An ITER-like wall for JET, <i>J. Paméla, G.F. Matthews, V. Philippis, R. Kamendje and JET-EFDA Contributors</i>	1
Key plasma wall interaction issues towards steady state operation, <i>E. Tsitrone</i>	12
Turbulent transport and the plasma edge, <i>V. Naulin</i>	24
The implications of mixed-material plasma-facing surfaces in ITER, <i>R.P. Doerner</i>	32
Understanding the SOL flow in L-mode plasma on divertor tokamaks, and its influence on the plasma transport, <i>N. Asakura and ITPA SOL and Divertor Topical Group</i>	41

Section 2. Material migration and transport

Final steps to an all tungsten divertor tokamak, <i>R. Neu, V. Bobkov, R. Dux, A. Kallenbach, Th. Pütterich, H. Greuner, O. Gruber, A. Herrmann, Ch. Hopf, K. Krieger, C.F. Maggi, H. Maier, M. Mayer, V. Rohde, K. Schmid, W. Suttrop and ASDEX Upgrade Team</i>	52
Spectroscopic investigation of carbon migration with tungsten walls in ASDEX Upgrade, <i>A. Kallenbach, R. Dux, J. Harhausen, C.F. Maggi, R. Neu, T. Pütterich, V. Rohde, K. Schmid, E. Wolfum and the ASDEX Upgrade Team</i>	60
Surface studies of tungsten erosion and deposition in JT-60U, <i>Y. Ueda, M. Fukumoto, M. Nishikawa, T. Tanabe, N. Miya, T. Arai, K. Masaki, Y. Ishimoto, K. Tsuzuki and N. Asakura</i>	66
Transport and deposition of ^{13}C from methane injection into partially detached H-mode plasmas in DIII-D, <i>W.R. Wampler, A.G. McLean, S.L. Allen, N.H. Brooks, J.D. Elder, M.E. Fenstermacher, M. Groth, P.C. Stangeby, W.P. West and D.G. Whyte</i>	72
Modeling of asymmetric redeposition distribution between inner and outer regions of the W-shaped divertor in JT-60U, <i>K. Ohya, K. Inai, T. Tanabe and H. Takenaga</i>	78
Spectroscopic characterization and simulation of chemical sputtering using the DiMES porous plug injector in DIII-D, <i>A.G. McLean, J.W. Davis, P.C. Stangeby, N.H. Brooks, D.G. Whyte, S.L. Allen, B.D. Bray</i> ,	

<i>S. Brezinsek, J.D. Elder, M.E. Fenstermacher, M. Groth, A.A. Haasz, E.M. Hollmann, R.C. Isler, C.J. Lasnier, D.L. Rudakov, J.G. Watkins, W.P. West and C.P.C. Wong</i>	86
Modelling of tritium retention and target lifetime of the ITER divertor using the ERO code, <i>A. Kirschner, D. Borodin, S. Droste, V. Philippis, U. Samm, G. Federici, A. Kukushkin and A. Loarte</i>	91
Erosion of a tungsten limiter under high heat flux in TEXTOR, <i>G. Sergienko, B. Bazylev, A. Huber, A. Kreter, A. Litnovsky, M. Rubel, V. Philippis, A. Pospieszczyk, Ph. Mertens, U. Samm, B. Schweer, O. Schmitz, M. Tokar and The TEXTOR Team</i>	96
Tungsten erosion in the outer divertor of JET, <i>M. Mayer, J. Likonen, J.P. Coad, H. Maier, M. Balden, S. Lindig, E. Vainonen-Ahlgren, V. Philippis and JET-EFDA Contributors</i>	101
Correlation of submicron dust observed in DIII-D during plasma operation with plasma operating parameters, <i>W.P. West and B.D. Bray</i>	107
Tungsten erosion at the ICRH limiters in ASDEX Upgrade, <i>R. Dux, V. Bobkov, N. Fedorczak, K. Iraschko, A. Kallenbach, R. Neu, T. Pütterich, V. Rohde and ASDEX Upgrade Team</i>	112
Dissociative adsorption of atmospheric molecules at vacancies on the graphite (0 0 0 1) surface of samples exposed to plasma, <i>A. Allouche and Y. Ferro</i>	117
Compatibility of ICRF antennas with W-coated limiters for different plasma geometries in ASDEX Upgrade, <i>VI.V. Bobkov, F. Braun, R. Dux, A. Herrmann, A. Kallenbach, R. Neu, J.-M. Noterdaeme, Th. Pütterich and ASDEX Upgrade Team</i>	122
Decomposition and sticking of hydrocarbons in the plasma generator PSI-2, <i>W. Bohmeyer, A. Markin, D. Naujoks, B. Koch, G. Krenz, M. Baudach and G. Fussmann</i>	127
Measurement of C I kinetic temperature in methane puffing experiments on DIII-D and implications for spectroscopically distinguishing carbon sputtering mechanisms, <i>N.H. Brooks, R.C. Isler and A.G. McLean</i>	131
Integrated modelling of the edge plasma and plasma facing components, <i>D.P. Coster, X. Bonnin, A. Mutzke, R. Schneider and M. Warrier</i>	136
OEDGE modeling of the DIII-D H-mode $^{13}\text{CH}_4$ puffing experiment, <i>J.D. Elder, A.G. McLean, P.C. Stangeby, S.L. Allen, J.A. Boedo, B.D. Bray, N.H. Brooks, M.E. Fenstermacher, M. Groth, A.W. Leonard, D.</i>	

<i>Reiter, D.L. Rudakov, W.R. Wampler, J.G. Watkins, W.P. West and D.G. Whyte</i>	140	<i>C.P.C. Wong, N.H. Brooks, T.E. Evans, M.E. Fenstermacher, M. Groth, S.I. Krasheninnikov, C.J. Lasnier, A.G. McLean, A.Yu. Pigarov, W.M. Solomon, G.Y. Antar, J.A. Boedo, R.P. Doerner, E.M. Hollmann, A.W. Hyatt, R.A. Moyer and J.G. Watkins</i>	227
Post mortem analysis of a JET quartz microbalance system, <i>H.G. Esser, V. Philippis, P. Wienhold, K. Sugiyama, A. Kreter, J.P. Coad, T. Tanabe and JET-EFDA Contributors</i>	146	In situ measurements of erosion and redeposition during long duration discharges on TRIAM-1M, <i>M. Sakamoto, M. Ogawa, H. Zushi, A. Higashijima, H. Nakashima, S. Kawasaki, M. Hasegawa, H. Idei, K. Hanada, K. Nakamura, K.N. Sato and TRIAM Group</i>	223
Erosion and transport of Sn and In in the SOL of MAST plasmas, <i>A.R. Foster, G.F. Counsell and H.P. Summers</i>	152	The observation of dust behavior in TRIAM-1M, <i>K. Sasaki, K. Hanada, N. Nishino, M. Tokitani, N. Yoshida, K.N. Sato, H. Zushi, K. Nakamura, M. Sakamoto, H. Idei, M. Hasegawa, S. Kawasaki, H. Nakashima, A. Higashijima and TRIAM group</i>	233
Toroidally asymmetric distributions of hydrocarbon (CD) emission and chemical sputtering sources in DIII-D, <i>M. Groth, N.H. Brooks, M.E. Fenstermacher, C.J. Lasnier, A.G. McLean and J.G. Watkins</i>	157	Discharge resolved impurity flux measurements in the edge plasma of ASDEX Upgrade by exposure of collector probes, <i>W. Schustereder, K. Krieger, A. Herrmann, V. Rohde and ASDEX Upgrade Team</i>	242
B2/Eirene modeling of EAST divertor target power loading with enhanced wall carbon source and additional neon injection, <i>H.Y. Guo, S. Zhu and J. Li</i>	162	Pulse-by-pulse measurements of dynamic retention and deposition in NSTX, <i>C.H. Skinner, H.W. Kugel, A.L. Roquemore, R. Maingi and W.R. Wampler</i>	247
Model for impurity generation, transport and deposition in the complex CIEL environment, <i>J. Hogan, E. Dufour, C. Lowry, J. Gunn, Y. Corre, P. Monier-Garbé, R. Mitteau and E. Tsitrone</i>	167	Studies of film formation and erosion by hydrocarbon injection at the plasma edge of TJ-II, <i>D. Tafalla, F.L. Tabarés, I. García-Cortés, E. de la Cal, J.A. Ferreira and A. Hidalgo</i>	252
Growth and erosion of amorphous carbon (a-C:H) films by low-temperature laboratory plasmas containing H and N mixtures, <i>T. Schwarz-Selinger, C. Hopf, C. Sun and W. Jacob</i>	174	First mirror tests for ITER: Influence of material choice on the erosion/deposition mechanisms affecting optical reflectivity, <i>G. De Temmerman, R.A. Pitts, V.S. Voitsenya, L. Marot, G. Veres, M. Maurer and P. Oelhafen</i>	259
Study of local carbon transport on graphite, tungsten and molybdenum test limiters in TEXTOR by $^{13}\text{CH}_4$ tracer injection, <i>A. Kreter, P. Wienhold, D. Borodin, S. Brezinsek, S. Droste, T. Hirai, A. Kirschner, A. Litnovsky, V. Philippis, A. Pospieszczyk, U. Samm, O. Schmitz, G. Sergienko and TEXTOR Team</i>	179	Effect of truncation of electron velocity distribution on release of dust particle from plasma-facing wall, <i>Y. Tomita, R. Smirnov, H. Nakamura, S. Zhu, T. Takizuka and D. Tskhakaya</i>	264
Hydrogen isotopic effects on the chemical erosion of graphite induced by ion irradiation, <i>J.H. Liang, M. Mayer, J. Roth, M. Balden and W. Eckstein</i>	184	Migration of ^{13}C and deposition at ASDEX Upgrade, <i>E. Vainonen-Ahlgren, J. Likonen, T. Renvall, V. Rohde, M. Mayer and ASDEX Upgrade Team</i>	270
Structural studies of deposited layers on JET MkII-SRP inner divertor tiles, <i>J. Likonen, J.P. Coad, E. Vainonen-Ahlgren, T. Renvall, D.E. Hole, M. Rubel, A. Widdowson and JET-EFDA Contributors</i>	190	Divertor and midplane materials evaluation system in DIII-D, <i>C.P.C. Wong, D.L. Rudakov, J.P. Allain, R.J. Bastasz, N.H. Brooks, J.N. Brooks, R.P. Doerner, T.E. Evans, A. Hassanein, W. Jacob, K. Krieger, A. Litnovsky, A.G. McLean, V. Philippis, A.Yu. Pigarov, W.R. Wampler, J.G. Watkins, W.P. West, J. Whaley and P. Wienhold</i>	276
Divertor heat flux scaling with heating power and plasma current in H-mode discharges in the national spherical torus experiment, <i>R. Maingi, C.E. Bush, R. Kaita, H.W. Kugel, A.L. Roquemore, S.F. Paul, V.A. Soukharev and NSTX Team</i>	196	Surface modification of thick SiC gradient coatings on doped graphite under long pulse plasma irradiation, <i>C.Y. Xie, J.L. Chen, J.G. Li and Q.F. Fang</i>	282
Measurements of the average energy of carbon atoms released from breakup of methane in the main SOL of DIII-D compared with DIVIMP code modeling, <i>P.C. Stangeby, A.G. McLean, J.D. Elder, N.H. Brooks, W.P. West and D. Reiter</i>	201	Section 3. Divertor physics	
A possible method of carbon deposit mapping on plasma facing components using infrared thermography, <i>R. Mitteau, J. Spruytte, S. Vallet, J.M. Travère, D. Guilhem and C. Brosset</i>	206	Erosion and deposition in the JET MkII-SRP divertor, <i>J.P. Coad, P. Andrew, S.K. Erents, D.E. Hole, J. Likonen, M. Mayer, R. Pitts, M. Rubel, J.D. Strachan, E. Vainonen-Ahlgren, A. Widdowson and JET-EFDA Contributors</i>	287
Modeling of multi-dimensional impurity transport in a realistic tokamak geometry, <i>A. Fukano, M. Noritake, K. Hoshino, R. Yamazaki and A. Hatayama</i>	211	Divertor transport study in the large helical device, <i>M. Kobayashi, Y. Feng, S. Masuzaki, M. Shoji, J. Miyazawa, T. Morisaki, N. Ohya, N. Ashikawa, A. Komori, O. Motojima, The LHD Experimental Group, Y. Iguchi, F. Sardei and D. Reiter</i>	294
Transport of dust particles in tokamak devices, <i>A.Yu. Pigarov, R.D. Smirnov, S.I. Krasheninnikov, T.D. Rognlien, M. Rosenberg and T.K. Soboleva</i>	216		
3D measurements of mobile dust particle trajectories in NSTX, <i>A.L. Roquemore, N. Nishino, C.H. Skinner, C. Bush, R. Kaita, R. Maqueda, W. Davis, A.Yu. Pigarov and S.I. Krasheninnikov</i>	222		
Migration of artificially introduced micron-size carbon dust in the DIII-D divertor, <i>D.L. Rudakov, W.P. West,</i>			

Effects of ELMs on ITER divertor armour materials, <i>A. Zhithukhin, N. Klimov, I. Landman, J. Linke, A. Loarte, M. Merola, V. Podkrovov, G. Federici, B. Bazylev, S. Pestchanyi, V. Safronov, T. Hirai, V. Maynashov, V. Levashov and A. Muzichenko</i>	301	K.H. Finken, M. Lehnhen, K.H. Spatschek, R.C. Wolf and The TEXTOR Team	371
Effect of the dome on divertor performance in ITER, <i>A.S. Kukushkin, H.D. Pacher, V. Kotov, D. Reiter, D.P. Coster and G.W. Pacher</i>	308	The effect of the magnetic topology on particle recycling in the ergodic divertor of TEXTOR, <i>M. Lehnhen, S.S. Abdullaev, S. Brezinsek, K.H. Finken, D. Harting, M. von Hellermann, M.W. Jakubowski, R. Jaspers, A. Kirschner, A. Pospieszczyk, D. Reiter, U. Samm, O. Schmitz, G. Sergienko, B. Unterberg, R. Wolf and The TEXTOR Team</i>	377
Divertor plasma and neutral particles behavior under the local island divertor configuration in the Large Helical Device, <i>S. Masuzaki, T. Morisaki, M. Kobayashi, M. Shoji, N. Ohyabu, A. Komori and The LHD Experimental Group</i>	314	Sheath heat transmission factors on TCV, <i>J. Marki, R.A. Pitts, T. Eich, A. Herrmann, J. Horacek, F. Sanchez and G. Veres</i>	382
ELM-wall interaction on JET and ITER, <i>W. Fundamenski, R.A. Pitts and JET EFDA contribu- tors</i>	319	A new edge-based energy scaling law for W7-AS and its implications for boundary-island divertor operation, <i>K. McCormick, P. Grigull, H. Ehmler, E. Pasch and NBI-, ECRH- and W7-AS Teams</i>	389
Analysis of difference in H α spectral line profiles between attachment and detachment plasmas in LHD, <i>H. Arimoto, K. Kondo, S. Masuzaki, M. Shoji, J. Miyazawa, M. Kobayashi, N. Tamura, T. Morisaki, M. Goto, S. Morita, K. Ida, N. Ohyabu, S. Sudo and the LHD Experimental Group</i>	325	Contribution of hydrogen molecular assisted recombination processes to population of hydrogen atom in divertor simulator MAP-II, <i>A. Okamoto, S. Kado, K. Sawada, Y. Kuwahara, Y. Iida and S. Tanaka</i>	395
B2-EIRENE simulation of plasma and neutrals in MAGNUM-PSI, <i>M. Baeva, W.J. Goedheer, N.J. Lopes Cardozo and D. Reiter</i>	329	Effect of the tokamak size in edge transport modelling and implications for DEMO, <i>H.D. Pacher, A.S. Kukushkin, G.W. Pacher, G. Janeschitz, D. Coster, V. Kotov and D. Reiter</i>	400
Comparison between measured divertor parameters in ASDEX Upgrade and SOLPS code solutions, <i>A.V. Chankin, D.P. Coster, R. Dux, Ch. Fuchs, G. Haas, A. Herrmann, L.D. Horton, A. Kallenbach, M. Kaufmann, A.S. Kukushkin, K. Lackner, H.W. Müller, J. Neuhauser, R. Pugno, M. Tsallas and ASDEX Upgrade Team</i>	335	Study of the specific detachment characteristics of HL-2A, <i>Y.D. Pan and R. Schneider</i>	407
Efficacy of photon cleaning of JET divertor tiles, <i>A. Widdowson, J.P. Coad, N. Bekris, G. Counsell, M.J. Forrest, K.J. Gibson, D. Hole, J. Likonen, W. Parsons, T. Renvall, M. Rubel and JET-EFDA Contributors</i>	341	Observation of divertor and core radiation in JT-60U by means of bolometric imaging, <i>B.J. Peterson, S. Konoshima, H. Parchamy, M. Kaneko, T. Omori, D.C. Seo, N. Ashikawa, A. Sukegawa and JT-60U Team</i>	412
Simulations of ITER start-up and assessment of limiter power loads, <i>G. Federici, O. Zolotukhin, M. Kobayashi, A. Loarte, G. Strohmayer, A. Tanga, A. Portone, L. Horton, Y. Feng, F. Sardei, Y. Gribov, M. Shimada, A. Polevoi, R. Mitteau and C. Lowry</i>	346	Compatibility of the radiating divertor with high perfor- mance plasmas in DIII-D, <i>T.W. Petrie, M.R. Wade, N.H. Brooks, M.E. Fenstermacher, M. Groth, A.W. Hyatt, R.C. Isler, C.J. Lasnier, A.W. Leonard, M.A. Mahdavi, G.D. Porter, M.J. Schaffer, J.G. Watkins, W.P. West and DIII-D Team</i>	416
Numerical study on CX-neutral transport and wall-sputter- ing in W7-AS diverted plasmas, <i>Y. Feng, F. Sardei, P. Grigull, K. McCormick, J. Kisslinger, D. Reiter and D. Harting</i>	353	Spectral line shape modeling for the calculation of radia- tion transport in divertors, <i>J. Rosato, R. Stamm, L. Godber-Mouret, M. Koubiti, Y. Marandet, F. Rosmej and H. Capes</i>	421
Measurement and modeling of detached plasma cooling via ro-vibrational excitation of H ₂ neutrals in PISCES-A, <i>E.M. Hollmann, A.Yu. Pigarov and Z. Yan</i>	359	A new fast velocity-diffusion modelling for impurity transport in integrated edge plasma simulation, <i>K. Shimizu, T. Takizuka and H. Kawashima</i>	426
Improved radiation measurements on JET – First results from an upgraded bolometer system, <i>A. Huber, K. McCormick, P. Andrew, M.R. de Baar, P. Beaumont, S. Dalley, J. Fink, J.C. Fuchs, K. Fullard, W. Fundamenski, L.C. Ingesson, G. Kirnev, P. Lomas, F. Mast, S. Jachmich, G.F. Matthews, Ph. Mertens, A. Meigs, V. Philipps, J. Rapp, G. Saibene, S. Sanders, R. Sartori, M.F. Stamp, W. Zeidner and JET-EFDA Contributors</i>	365	Divertor heat flux reduction and detachment experiments in NSTX, <i>V.A. Soukhanovskii, R. Maingi, C.E. Bush, R. Raman, R.E. Bell, R. Kaita, H.W. Kugel, C.J. Lasnier, B.P. LeBlanc, J.E. Menard, S.F. Paul, A.L. Roquemore and The NSTX Research Team</i>	432
Observation of the heteroclinic tangles in the heat flux pattern of the ergodic divertor at TEXTOR at <i>M.W. Jakubowski, A. Wingen, S.S. Abdullaev</i>	366	Negative ion production near a divertor plate, <i>F. Taccogna, R. Schneider, K. Matyash, S. Longo, M. Capitelli and D. Tskhakaya</i>	437
Retention properties of plasma particles in tungsten exposed to LHD divertor plasmas, <i>M. Tokitani, M. Miyamoto, K. Tokunaga, T. Fujiwara, N. Yoshida, S. Masuzaki, N. Ashikawa, T. Morisaki, M. Shoji, A. Komori, LHD Experimental Group, S. Nagata and B. Tsuchiya</i>		High recycling outer divertor regimes after type-I ELMs at high density in ASDEX Upgrade, <i>M. Wischmeier, A. Kallenbach, A.V. Chankin, D.P. Coster, T. Eich,</i>	443

<i>A. Herrmann, H.W. Müller and ASDEX Upgrade Team</i>	448	on DIII-D, <i>G. Wang, W.A. Peebles, E.J. Doyle, T.L. Rhodes, L. Zeng, X. Nguyen, T.H. Osborne, P.B. Snyder, G.J. Kramer, R. Nazikian, R.J. Groebner, K.H. Burrell, A.W. Leonard, M.E. Fenstermacher and E.J. Strait</i>	534
Low recycling regime in ITER and the LiWall concept for its divertor, <i>L.E. Zakharov, W. Blanchard, R. Kaita, H. Kugel, R. Majeski and J. Timberlake</i>	453		
Finite size effect of dust charging in the magnetized edge plasma, <i>K. Matyash, R. Schneider, F. Taccogna and D. Tskhakaya</i>	458		
Migration and release behavior of tritium in SS316 at ambient temperature, <i>Y. Torikai, D. Murata, R.-D. Penzhorn, K. Akaishi, K. Watanabe and M. Matsuyama</i>	462		
Section 4. Transport in the plasma edge/SOL			
ITER and plasma surface interaction issues in a fusion reactor, <i>Y. Shimomura</i>	467		
Pedestal, SOL and divertor plasma properties in DIII-D RMP ELM-suppressed discharges at ITER relevant edge collisionality, <i>M.E. Fenstermacher, T.E. Evans, R.A. Moyer, G.D. Porter, J.A. Boedo, K.H. Burrell, M. Groth, I. Joseph, T.H. Osborne and J.G. Watkins</i>	476		
Evidence for a poloidally localized enhancement of radial transport in the scrape-off layer of the Tore Supra tokamak, <i>J.P. Gunn, C. Boucher, M. Dionne, I. Duran, V. Fuchs, T. Loarer, I. Nanobashvili, R. Pánek, J.-Y. Pascal, F. Saint-Laurent, J. Stöckel, T. Van Rompuy, R. Zagórska, J. Adámek, J. Bucalossi, R. Dejarnac, P. Devynck, P. Hertout, M. Hron, G. Lebrun, P. Moreau, F. Rimini, A. Sarkissian and G. Van Oost</i>	484		
RF plasma edge interactions and their impact on ICRF antenna performance in Alcator C-Mod, <i>S.J. Wukitch, B. Lipschultz, E. Marmar, Y. Lin, A. Parisot, M. Reinke, J. Rice, J. Terry and C-Mod Team</i>	491		
Role of recycling in JET trace tritium transport experiments, <i>D.L. Hillis, J. Hogan, K.-D. Zastrow, V. Parail, D. Coster, D. Reiter, S. Brezinsek, A. Pospieszczyk, M. Stamp, W. Fundamenski, D.C. McDonald and JET EFDA Contributors</i>	498		
Parallel SOL flow on TCV, <i>R.A. Pitts, J. Horacek, W. Fundamenski, O.E. Garcia, A.H. Nielsen, M. Wischmeier, V. Naulin and J. Juul Rasmussen</i>	505		
Non-axisymmetric SOL-transport study for tokamaks and stellarators, <i>F. Sardei, Y. Feng, J. Kisslinger, P. Grigull, M. Kobayashi, D. Harting, D. Reiter, G. Federici and A. Loarte</i>	511		
The operational phase-space of the edge plasma and its sensitivity to magnetic topology in Alcator C-Mod, <i>B. LaBombard, N. Smick, M. Greenwald, J.W. Hughes, B. Lipschultz, K. Marr and J.L. Terry</i>	517		
Edge harmonic oscillations at the density pedestal in the H-mode discharges in CHS Heliotron measured using beam emission spectroscopy and magnetic probe, <i>S. Kado, T. Oishi, M. Yoshinuma, K. Ida, M. Takeuchi, K. Toi, T. Akiyama, T. Minami, K. Nagaoka, A. Shimizu, S. Okamura, S. Tanaka and CHS Group</i>	522		
The filamentary structure of ELMs in the scrape-off layer in ASDEX Upgrade, <i>A. Herrmann, A. Kirk, A. Schmid, B. Koch, M. Laux, M. Maraschek, H.W. Mueller, J. Neuhauser, V. Rohde, M. Tsalaas, E. Wolfrum and ASDEX Upgrade Team</i>	528		
Initial results of H-mode edge pedestal turbulence evolution with quadrature reflectometer measurements			
Numerical analysis of the SOL/divertor plasma flow with the effect of drifts, <i>K. Hoshino, A. Hatayama, N. Asakura, H. Kawashima, R. Schneider and D. Coster</i>	539		
Edge plasma modelling for HT-7 superconducting tokamak experiments, <i>Y. Chen, G. Xu, J. Hu and D.P. Coster</i>	544		
Control of test particle transport in a turbulent electrostatic model of the Scrape-Off-Layer, <i>G. Ciraolo, Ph. Ghendrih, Y. Sarazin, C. Chandre, R. Lima, M. Vittori and M. Pettini</i>	550		
2-D mapping of ICRF-induced SOL perturbations in Tore Supra tokamak, <i>L. Colas, J.P. Gunn, I. Nanobashvili, V. Petržílková, M. Goniche, A. Ekedahl, S. Heuraux, E. Joffrin, F. Saint-Laurent, C. Balorin, C. Lowry and V. Basiuk</i>	555		
Kinetic calculation of plasma deposition in castellated tile gaps, <i>R. Dejarnac and J.P. Gunn</i>	560		
EDGE2D modelling of JET and ITER including the combined effect of guiding centre drifts and an edge transport barrier, <i>S.K. Erents, W. Fundamenski, G. Corrigan, G.F. Matthews, R. Zagorski and EFDA-JET Contributors</i>	565		
Experimental and numerical studies of separatrix splitting and magnetic footprints in DIII-D, <i>T.E. Evans, I. Joseph, R.A. Moyer, M.E. Fenstermacher, C.J. Lasnier and L.W. Yan</i>	570		
Turbulent transport in the TCV SOL, <i>O.E. Garcia, R.A. Pitts, J. Horacek, A.H. Nielsen, W. Fundamenski, J.P. Graves, V. Naulin and J.J. Rasmussen</i>	575		
Transport barrier fluctuations governed by SOL turbulence spreading, <i>Ph. Ghendrih, Y. Sarazin, G. Ciraolo, G. Darmet, X. Garbet, V. Grangierard, P. Tamain, S. Benkadda and P. Beyer</i>	581		
Radially propagating turbulent structures in a linear helicon plasma device, <i>T. Windisch, O. Grulke and T. Klinger</i>	586		
Stochastic transport modeling of resonant magnetic perturbations in DIII-D, <i>I. Joseph, R.A. Moyer, T.E. Evans, M.J. Schaffer, A.M. Runov, R. Schneider, S.V. Kasilov, M. Groth and M.E. Fenstermacher</i>	591		
Correlation of neutral beam injection parameters and core β with anomalous first-wall heating during QH-mode, <i>C.J. Lasnier, K.H. Burrell, J.S. deGrassie, T.L. Rhodes, M.A. VanZeeland and J.G. Watkins</i>	596		
Impact of bumpiness control on edge plasma in a helical-axis heliotron device, <i>T. Mizuchi, S. Watanabe, S. Fujikawa, H. Okada, S. Kobayashi, H. Yabutani, K. Nagasaki, H. Nakamura, Y. Torii, S. Yamamoto, M. Kaneko, H. Arimoto, G. Motojima, H. Kitagawa, T. Tsuji, M. Uno, S. Matsuoka, M. Nosaku, N. Watanabe, Y. Nakamura, K. Hanatani, K. Kondo and F. Sano</i>	600		
Deuterium plasma flow in the scrape-off layer of ASDEX Upgrade, <i>H.W. Müller, V. Bobkov, A. Herrmann, M. Maraschek, J. Neuhauser, V. Rohde, A. Schmid, M. Tsalaas and ASDEX Upgrade Team</i>	605		

High density plasma generation by RF ohmic discharge in toroidal divertor simulator NAGDIS-T, <i>M. Nagase, H. Masuda, N. Ohno, S. Takamura and M. Takagi</i>	611	tokamak TEXTOR, <i>B. Unterberg, C. Busch, M. de Bock, J.W. Coenen, K.H. Finken, St. Jachmich, M.W. Jakubowski, Y. Kikuchi, A. Krämer-Flecken, M. Lehnert, U. Samm, O. Schmitz, S. Soldatov, M.Z. Tokar, M. von Hellermann, R.C. Wolf, Y. Xu and TEXTOR-team</i>	698
Edge plasma behavior in the GAMMA 10 tandem mirror based on gas puff imaging experiments with a high-speed camera, <i>Y. Nakashima, N. Nishino, Y. Higashizono, H. Kawano, S. Kobayashi, M. Shoji, Y. Kubota, M. Yoshikawa, M.K. Islam, Y. Mishima, D. Mimura and T. Cho</i>	616	Reynolds stress and edge turbulence in TEXTOR: A comparison between simulations and experiment, <i>M. Vergote, M. Van Schoor, Y. Xu, S. Jachmich and R. Weynants</i>	703
Radial profiles of plasma turbulent fluctuations in the scrape-off layer of the Tore Supra tokamak, <i>I. Nanobashvili, J.P. Gunn and P. Devynck</i>	622	Target plate conditions during stochastic boundary operation on DIII-D, <i>J.G. Watkins, T.E. Evans, C.J. Lasnier, R.A. Moyer and D.L. Rudakov</i>	708
High-speed 2D measurement of edge turbulence phenomena with a fast camera in Heliotron J, <i>N. Nishino, T. Mizuuchi, Z. Feng, S. Kobayashi, K. Nagasaki, H. Okada, Y. Torii, K. Kondo and F. Sano</i>	628	Carbon influx from the island divertor of the Wendelstein-7AS stellarator, <i>U. Wenzel, H. Thomsen and P. Grigull</i>	713
Numerical predictions of the poloidal $E \times B$ drift in EAST, <i>J. Ou and S. Zhu</i>	633	Measurements of Reynolds stress and turbulent transport in the plasma boundary during the static dynamic ergodic divertor operation on TEXTOR, <i>Y. Xu, S. Jachmich, M. Van Schoor, M. Vergote, M.W. Jakubowski and R.R. Weynants</i>	718
Highly resolved measurements of periodic radial electric field and associated relaxations in edge biasing experiments, <i>P. Peleman, Y. Xu, M. Spolaore, J. Brotankova, P. Devynck, J. Stöckel, G. Van Oost and C. Boucher</i>	638	Stochastic boundary modeling by resonant magnetic perturbations on DIII-D, <i>L.W. Yan and T.E. Evans</i>	723
Simulation of large parallel plasma flows in the tokamak SOL driven by cross-field transport asymmetries, <i>A.Yu. Pigarov, S.I. Krasheninnikov, B. LaBombard and T.D. Rognlien</i>	643	Examination of the velocity time-delay-estimation technique, <i>J.H. Yu, C. Holland, G.R. Tynan, G. Antar and Z. Yan</i>	728
Detailed atomic, molecular and radiation kinetics in current 2D and 3D edge plasma fluid codes, <i>D. Reiter, V. Kotov, P. Börner, K. Sawada, R.K. Janev and B. Küppers</i>	649	Plasma wall interactions in RFX-mod with virtual magnetic boundary, <i>P. Zanca, D. Terranova, M. Valisa and S. Dal Bello</i>	733
Scrape-off layer plasmas for ITER with 2nd X-point and convective transport effects, <i>T.D. Rognlien, R.H. Bulmer, M.E. Rensink and J.N. Brooks</i>	658	Electron thermal transport induced by magnetic turbulence in the HT-7 tokamak, <i>W. Zhang, G.S. Xu and B.N. Wan</i>	738
Modeling of the parametric dependence of the edge toroidal rotation for MAST and ASDEX Upgrade, <i>V. Rozhansky, P. Molchanov, S. Voskoboinikov, G. Counsell, A. Kirk, D. Coster and R. Schneider</i>	664	Internal collapse of the plasma during the long pulse plasma discharge and its influence on the plasma performance, <i>L. Hu and HT-7 Team</i>	743
Edge turbulence in RFX-mod virtual-shell discharges, <i>P. Scarin, M. Agostini, R. Cavazzana, F. Sattin, G. Serianni and N. Vianello</i>	669	Section 5. Fueling and recycling	
DIVIMP modeling of tungsten impurity transport in ITER, <i>K. Schmid, K. Krieger, A. Kukushkin and A. Loarte</i>	674	Behaviors of impurity and hydrogen recycling on the HT-7 tokamak, <i>J. Huang, B. Wan, X. Gong, Z. Wu and the HT-7 Team</i>	751
Characterization of transport in the stochastic edge layer of TEXTOR by analysis of the radial and poloidal distribution of electron density and temperature, <i>O. Schmitz, D. Harting, S.S. Abdullaev, S. Brezinsek, K.H. Finken, H. Frerichs, M. Jakubowski, M. Lehnert, X. Loozen, Ph. Mertens, D. Reiter, U. Samm, B. Schwerer, G. Sergienko, M.Z. Tokar, B. Unterberg, R.C. Wolf and the TEXTOR team</i>	680	Deuterium in-vessel retention characterisation through the use of particle balance on Tore Supra, <i>J. Bucalossi, C. Brosset, B. Pégorié, E. Tsitrone, E. Dufour, A. Eckedahl, A. Geraud, M. Goniche, J. Gunn, T. Loarer, P. Monier-Garbé, J.C. Vallet and S. Vartanian</i>	759
Progress towards the validation of models of the behavior of neutral helium in gas puff imaging experiments, <i>D.P. Stotler, J. Boedo, B. LeBlanc, R.J. Maqueda and S.J. Zweben</i>	686	Hydrogen recycling and puffing at a poloidal limiter of TJ-II, <i>E. de la Cal, J. Guasp, F.L. Tabarés, D. Tafalla, A. Alonso, P. Carvalho, A. Salas, B. Zurro and TJ-II Team</i>	764
Development of a computational tool for limiter edge plasma modeling with application to IGNITOR, <i>F. Subba, A. Airoldi, F. Bombarda, G. Cenacchi, G. Maddaluno and R. Zanino</i>	693	The study of MARFE during long pulse discharges in the HT-7 tokamak, <i>W. Gao, X. Gao, M. Asif, Z.W. Wu, B.L. Ling and J.G. Li</i>	770
Impact of stochastic magnetic fields on plasma rotation and radial electric fields in the plasma edge of the		Helium ash removal by moving-surface plasma-facing components, <i>Y. Hirooka, S. Hosaka, M. Nishiura, Y. Ohtsuka and M. Nishikawa</i>	775
		Plasma density behavior with new graphite limiters in HT-7, <i>Y.X. Jie, M. Asif, X. Gao and H.Q. Liu</i>	781
		Simulation of divertor pumping in JT-60U with SOL-DOR/NEUT2D code, <i>H. Kawashima, K. Shimizu, T. Takizuka, N. Asakura, H. Takenaga, T. Nakano and S. Sakurai</i>	786

Effect of lithium PFC coatings on NSTX density control, <i>H.W. Kugel, M.G. Bell, R. Bell, C. Bush, D. Gates, T. Gray, R. Kaita, B. Leblanc, R. Maingi, R. Majeski, D. Mansfield, D. Mueller, S. Paul, R. Raman, A.L. Roquemore, S. Sabbagh, C.H. Skinner, V. Soukhanovskii, T. Stevenson and L. Zakharov</i>	791
Simulation of charge exchange neutrals interactions with gaps in first wall cladding, <i>V.A. Kurnaev, D.I. Matveev and N.N. Trifonov</i>	797
Probability of absorption/implantation of low-energy H ₂ ⁺ ions in O-covered vanadium, <i>A. Livshits, Y. Hatano, V. Alimov and M. Matsuyama</i>	801
Effect of magnetic configuration on the neutral particle transport in compact helical system edge region, <i>H. Matsuura, C. Suzuki and S. Okamura</i>	806
Molecular (H/D/T) sources in JET, <i>A. Pospieszczyk, S. Brezinsek, A. Meigs, Ph. Mertens, G. Sergienko, M. Stamp and JET-EFDA Contributors</i>	811
Simulation of main-chamber recycling in DIII-D with the UEDGE code, <i>M.E. Rensink, M. Groth, G.D. Porter, T.D. Rognlien, D.L. Rudakov and J.G. Watkins</i>	816
Deuterium retention in carbon fibre composites NB31 and N11 irradiated with low-energy D ions, <i>J. Roth, V.Kh. Alimov, A.V. Golubeva, R.P. Doerner, J. Hanna, E. Tsitrone, Ch. Brosset, V. Rohde, A. Herrmann and M. Mayer</i>	822
Three-dimensional neutral particle transport simulation for analyzing polarization resolved H-alpha spectra in the large helical device, <i>M. Shoji, A. Iwamae, M. Goto, A. Sakaue, M. Atake, S. Masuzaki, J. Miyazawa, N. Ohyabu, A. Komori and LHD Experimental Groups</i>	827
Permeation of hydrogen through MPG-8 graphite, <i>A. Spitsyn, A. Pisarev, A. Skvoroda, V. Gureev and Yu. Martynenko</i>	833
Particle balance on HT-7: Error analysis and first results, <i>Y. Yang and The HT-7 Team</i>	839
Thermal interaction of plasma with Gas Puffing, <i>P. Tamain, E. Tsitrone, Ph. Ghendrih, J. Gunn, F. Clairet, J. Bucalossi and B. Pégourié</i>	844
Balmer- α spectroscopic study on hydrogen recycling and molecular effects in HT-7, <i>B. Xiao, B. Wan, J. Huang and HT-7 Team</i>	849
Section 6. Tritium trapping and recovery	
Hydrogen isotopes retention in JT-60U, <i>Y. Hirohata, T. Tanabe, Y. Oya, K. Okuno, K. Masaki, N. Miya and The JT-60U Team</i>	854
Oxidation for deposits removal and hydrogen release on HT-7, <i>J.S. Hu, J.G. Li, X.M. Wang, Y.P. Zhao and HT-7 Team</i>	862
Formation of deuterium–carbon inventories in gaps of plasma facing components, <i>K. Krieger, W. Jacob, D.L. Rudakov, R. Bastasz, G. Federici, A. Litnovsky, H. Maier, V. Rohde, G. Strohmayer, W.P. West, J. Whaley, C.P.C. Wong and The ASDEX Upgrade and DIII-D Teams</i>	870
Fuel removal from plasma-facing components by oxidation-based techniques. An overview of surface conditions after oxidation, <i>M.J. Rubel, G. De Temmerman, G. Sergienko, P. Sundelin, B. Emmoth and V. Philippis</i>	877
Oxygen glow discharge cleaning in ASDEX Upgrade, <i>C. Hopf, V. Rohde, W. Jacob, A. Herrmann, R. Neu, J. Roth and ASDEX Upgrade Team</i>	882
Alternative cleaning technique for the removal of carbon deposits, <i>J.A. Ferreira, F.L. Tabarés and D. Tafalla</i>	888
Deuterium retention in rhenium-doped tungsten, <i>A.V. Golubeva, M. Mayer, J. Roth, V.A. Kurnaev and O.V. Ogorodnikova</i>	893
Hydrogen and helium trapping in tungsten under simultaneous irradiations, <i>H.T. Lee, A.A. Haasz, J.W. Davis, R.G. Macaulay-Newcombe, D.G. Whyte and G.M. Wright</i>	898
Deuterium depth profiling in JT-60U tiles using the D(³ He,p) ⁴ He resonant nuclear reaction, <i>T. Hayashi, K. Sugiyama, K. Krieger, M. Mayer, V.Kh. Alimov, T. Tanabe, K. Masaki and N. Miya</i>	904
Dependence of implantation temperature on chemical behavior of energetic deuterium implanted into tungsten carbide, <i>E. Igarashi, Y. Nishikawa, T. Nakahata, A. Yoshikawa, M. Oyadzu, Y. Oya and K. Okuno</i>	910
Simulation of hydrocarbon redeposition in the gaps between divertor tiles, <i>K. Inai and K. Ohya</i>	915
Hydrogen control in Alcator C-Mod walls and plasmas, <i>Y. Lin, J. Irby, B. Lipschultz, E. Marmar, D. Whyte, S. Wolfe, S. Wukitch and The Alcator C-Mod Group</i>	920
Ion fluence dependence on chemical behavior of energetic deuterium implanted into oxygen-contained boron film, <i>H. Miyauchi, A. Yoshikawa, M. Oyadzu, Y. Oya, A. Sagara, N. Noda and K. Okuno</i>	925
Removal of carbon layers by oxygen glow discharges in TEXTOR, <i>V. Philippis, G. Sergienko, A. Lyssiovan, H.G. Esser, M. Freisinger, A. Kreter and U. Samm</i>	929
Effects of helium implantation on hydrogen isotope reten-tion behavior in SiC, <i>Y. Oya, H. Miyauchi, T. Suda, Y. Nishikawa, T. Oda, K. Okuno and S. Tanaka</i>	933
Surface temperature effects on hydrogen and impurity release from the limiter studied by means of visible and near infrared spectroscopic measurement in TRIAM- 1M, <i>R. Bhattacharyay, H. Zushi, K. Nakashima, T. Shikama, M. Sakamoto, M. Ogawa, K. Nakamura, N. Yoshida, S. Kado, K. Sawada, Y. Hirooka, K. Hanada, K.N. Sato, H. Idei, K. Sasaki, H. Xu, M. Hasegawa, K. Uehara, A. Tsushima, N. Kimura, Y. Nozaki, S. Kawasaki, H. Nakashima and A. Higashijima</i>	938
Reactivity of soft amorphous hydrogenated carbon films in ambient atmosphere, <i>E. Salançon, T. Dürbeck, T. Schwarz-Selinger and W. Jacob</i>	944
Ion beam analysis of H and D retention in the near surface layers of JT-60U plasma facing wall tiles, <i>K. Sugiyama, T. Hayashi, K. Krieger, M. Mayer, K. Masaki, N. Miya and T. Tanabe</i>	949
Production and annihilation of deuterium traps in He-irradiated vanadium, <i>I. Takagi, N. Matsubara, M. Akiyoshi, T. Sasaki, K. Moritani and H. Moriyama</i>	955
Tritium distribution measurement of JET Mk II SRP divertor tiles, <i>T. Tanabe, K. Sugiyama, T. Renvall, J. Likonen, L. Penttilä, E. Vainonen-Ahlgren and J.P. Coad</i>	960
A mechanism of PFM erosion and redeposition in gaps, <i>I.V. Vigalov, A.A. Pisarev and K.M. Gutorov</i>	966

Properties of hydrogen desorption from co-deposits on JT-60 graphite tile by pulsed-laser ablation, <i>D. Watanabe, Y. Sakawa, T. Shibahara, K. Sugiyama, T. Shoji, K. Yamazaki and T. Tanabe</i>	972	<i>H.W. Müller, W. Bohmeyer, G. Fussmann, AUG Team and MAST Team</i>	1056
Dynamics of hydrogenic retention in molybdenum: First results from DIONISOS, <i>G.M. Wright, D.G. Whyte, B. Lipschultz, R.P. Doerner and J.G. Kulpin</i>	977	Numerical simulations of plasma wall interactions for ITER, <i>I.S. Landman and G. Janeschitz</i>	1061
Deuterium retention and desorption behavior in oxidized ferritic steel, <i>Y. Yamauchi, Y. Hirohata and T. Hino</i>	984	Particle flux and radial profiles in the SOL of DIII-D during ELMing H-mode, <i>A.W. Leonard, J.A. Boedo, M. Groth, B.L. Lipschultz, G.D. Porter, D.L. Rudakov and D.G. Whyte</i>	1066
Section 7. Transient events and their effects on plasma facing components		Edge localized modes control by resonant magnetic perturbations, <i>E. Nardon, M. Bécoulet, G. Huysmans, O. Czarny, P.R. Thomas, M. Lipa, R.A. Moyer, T.E. Evans, G. Federici, Y. Gribov, A. Polevoi, G. Saibene, A. Portone and A. Loarte</i>	1071
Divertor power deposition and target current asymmetries during type-I ELMs in ASDEX Upgrade and JET, <i>T. Eich, A. Kallenbach, R.A. Pitts, S. Jachmich, J.C. Fuchs, A. Herrmann, J. Neuhauser and ASDEX Upgrade Team and JET-EFDA Contributors</i>	989	Dynamic interaction between disruptive plasma and wall in the small tokamak HYBTOK-II, <i>M. Okamoto, T. Yamada, T. Hiraishi, Y. Kikuchi, N. Ohno and S. Takamura</i>	1076
The dynamics and structure of edge-localized-modes in Alcator C-Mod, <i>J.L. Terry, I. Cziegler, A.E. Hubbard, J.A. Snipes, J.W. Hughes, M.J. Greenwald, B. LaBombard, Y. Lin, P. Phillips and S. Wukitch</i>	994	ELM induced carbon contamination of ITER core, <i>S. Pestchanyi and I. Landman</i>	1081
Structure of MARFEs and ELMs in NSTX, <i>R.J. Maqueda, R. Maingi, K. Tritz, K.C. Lee, C.E. Bush, E.D. Fredrickson, J.E. Menard, A.L. Roquemore, S.A. Sabbagh and S.J. Zweben</i>	1000	Accommodation of prompt alpha-particle loss in a compact stellarator power plant, <i>A.R. Raffray, T.K. Mau, F. Najmabadi and The ARIES Team</i>	1087
First measurements of main chamber power load during JET disruptions, <i>P. Andrew, A. Alonso, G. Arnoux, E. Gauthier, J.I. Paley, V. Riccardo and JET EFDA Contributors</i>	1006	In-out divertor flow asymmetries during ELMs in ASDEX Upgrade H-mode plasmas, <i>M. Tsallas, D. Coster, C. Fuchs, A. Herrmann, A. Kallenbach, H.W. Mueller, J. Neuhauser, V. Rohde, N. Tsois and The ASDEX Upgrade Team</i>	1093
Melt damage simulation of W-macrobrush and divertor gaps after multiple transient events in ITER, <i>B.N. Bazylev, G. Janeschitz, I.S. Landman, A. Loarte and S.E. Pestchanyi</i>	1011	Influence of recrystallization on thermal shock resistance of various tungsten grades, <i>I. Uytdenhouwen, M. Decréton, T. Hirai, J. Linke, G. Pintsuk and G. Van Oost</i>	1099
Positive sheath behaviour in low pressure Argon plasma, <i>L. Schiesko, M. Carrère, G. Cartry and J.M. Layet</i>	1016	Radiation distributions in TCV, <i>G. Veres, R.A. Pitts, M. Wischmeier, B. Gulejová, J. Horacek and S. Kálvin</i>	1104
Tungsten melt layer erosion due to $\mathbf{J} \times \mathbf{B}$ force under conditions relevant to ITER ELMs, <i>I.E. Garkusha, B.N. Bazylev, A.N. Bandura, O.V. Byrka, V.V. Chetobarev, I.S. Landman, N.V. Kulik, V.A. Makhlaj, Yu.V. Petrov, D.G. Solyakov and V.I. Tereshin</i>	1021	Section 8. Plasma facing materials, wall conditioning and steady state operation	
Plasma wall interaction during ELMs in JET, <i>E. Gauthier, P. Andrew, G. Arnoux, Y. Corre, H. Roche and JET-EFDA Contributors</i>	1026	Influence of boronization on operation with high-Z plasma facing components in Alcator C-Mod, <i>B. Lipschultz, Y. Lin, E.S. Marmar, D.G. Whyte, S. Wukitch, I.H. Hutchinson, J. Irby, B. LaBombard, M.L. Reinke, J.L. Terry, G. Wright and The Alcator C-Mod Group</i>	1110
Target heat loading due to fast, transient heat pulses produced from a conical θ -pinch as a prototype for benchmarking simulations of transient heat loads, <i>T.K. Gray, M.A. Jaworski and D.N. Ruzic</i>	1032	Hydrocarbon injection for quantification of chemical erosion yields in tokamaks, <i>S. Brezinsek, A. Pospieszczyk, D. Borodin, M.F. Stamp, R. Pugno, A.G. McLean, U. Fantz, A. Manhard, A. Kallenbach, N.H. Brooks, M. Groth, Ph. Mertens, V. Philippss, U. Samm, TEXTOR, ASDEX Upgrade and DIII-D Teams and JET-EFDA Contributors</i>	1119
SOLPS5 modelling of the type III ELMing H-mode on TCV, <i>B. Gulejová, R.A. Pitts, M. Wischmeier, R. Behn, D. Coster, J. Horacek and J. Marki</i>	1037	Binary beryllium-tungsten mixed materials, <i>Ch. Linsmeier, K. Ertl, J. Roth, A. Wiltner, K. Schmid, F. Kost, S.R. Bhattacharyya, M. Baldwin and R.P. Doerner</i>	1129
Modeling of dynamic response of SOL-divertor plasmas to an ELM crash, <i>N. Hayashi, T. Takizuka and M. Hosokawa</i>	1044	In-situ tokamak laser applications for detritiation and co-deposited layers studies, <i>C. Grisolía, A. Semerok, J.M. Weulersse, F. Le Guern, S. Fomichev, F. Brygo, P. Fichet, P.Y. Thro, P. Coad, N. Bekris, M. Stamp, S. Rosanvallon and G. Piazza</i>	1138
Divertor particle and power deposition profiles in JET ELMing H-mode discharges, <i>S. Jachmich, T. Eich, W. Fundamenski, A. Kallenbach, R.A. Pitts and JET-EFDA Contributors</i>	1050	Surface modification and hydrogen isotope retention in CFC during plasma irradiation in the Tore Supra tokamak, <i>L. Begrambekov, C. Brosset, J. Bucalossi, E. Delchambre, J.P. Gunn, C. Grisolía, M. Lipa</i>	
Observation of ELM structures in MAST and AUG using a fast camera, <i>B. Koch, A. Herrmann, A. Kirk, H. Meyer, J. Dowling, J. Harhausen, J. Neuhauser,</i>			

<i>T. Loarer, R. Mitteau, P. Moner-Garbet, J.-Y. Pascal, P. Shigin, N. Titov, E. Tsitrone, S. Vergazov and A. Zakharov</i>	1148	Tungsten coatings for the JET ITER-like wall project, <i>H. Maier, R. Neu, H. Greuner, Ch. Hopf, G.F. Matthews, G. Piazza, T. Hirai, G. Counsell, X. Courtois, R. Mitteau, E. Gauthier, J. Likonen, G. Maddaluno, V. Philipps, B. Riccardi, C. Ruset and EFDA-JET Team</i>	1246
Surface modification at tungsten and tungsten coated graphite due to low energy and high fluence plasma and laser pulse irradiation, <i>N. Ohno, S. Kajita, D. Nishijima and S. Takamura</i>	1153	Multiscale study of the porosity of carbon deposits collected in Tore Supra, <i>C. Martin, M. Richou, W. Saikaily, B. Pégourié, C. Brosset and P. Roubin</i>	1251
Disruption mitigation on Alcator C-Mod using high-pressure gas injection: Experiments and modeling toward ITER, <i>D.G. Whyte, R. Granetz, M. Bakhtiari, V. Izzo, T. Jernigan, J. Terry, M. Reinke and B. Lipschultz</i>	1160	Diffusion and trapping of tritium in vanadium alloys, <i>J. Masuda, K. Hashizume, T. Otsuka, T. Tanabe, Y. Hatano, Y. Nakamura, T. Nagasaka and T. Muroga</i>	1256
Deuterium trapping in ion-damaged tungsten single crystal, <i>I.I. Arkhipov, S.L. Kanashenko, V.M. Sharapov, R.Kh. Zalavutdinov and A.E. Gorodetsky</i>	1168	Parametric studies of carbon erosion mitigation dynamics in beryllium seeded deuterium plasmas, <i>D. Nishijima, M.J. Baldwin, R.P. Doerner and R. Seraydarian</i>	1261
Chemical erosion by deuterium impact on carbon films doped with nanometer-sized carbide crystallites, <i>M. Balden, C. Adelhelm, E. de Juan Pardo and J. Roth</i>	1173	Extended incident-angle dependence formula for physical sputtering, <i>T. Ono, K. Shibata, T. Kenmotsu, T. Muramoto, Z. Li and T. Kawamura</i>	1266
Be-W alloy formation in static and divertor-plasma simulator experiments, <i>M.J. Baldwin, R.P. Doerner, D. Nishijima, D. Buchenauer, W.M. Clift, R.A. Causey and K. Schmid</i>	1179	Dynamic Monte-Carlo modeling of hydrogen isotope diffusion in co-deposited layers, <i>A. Rai, P.N. Maya, R. Schneider, S.P. Deshpande and M. Warrier</i>	1272
Tungsten sputtering and accumulation of implanted carbon and deuterium by simultaneous bombardment with D and C ions, <i>I. Bizyukov, K. Krieger, N. Azarenkov, Ch. Linsmeier and S. Levchuk</i>	1184	Surface effects on graphite samples exposed to beryllium-seeded plasmas under transient power load on PISCES-B, <i>R. Pugno, M.J. Baldwin, R.P. Doerner, J. Hanna, D. Nishijima and G. Antar</i>	1277
Modelling of carbon dust formation by cluster growth in argon plasmas, <i>X. Bonnin, G. Lombardi, K. Hassouni, A. Michau, F. Bénédic and C. Arnas</i>	1190	Hydrocarbon radicals interaction with amorphous carbon surfaces, <i>A.R. Sharma, R. Schneider, U. Toussaint and K. Nordlund</i>	1283
Irradiation effects of low energy helium ions on optical reflectivity of metallic mirror, <i>A. Ebihara, M. Tokitani, K. Tokunaga, T. Fujiwara, A. Sagara and N. Yoshida</i>	1195	Dissociation mechanisms of cluster ions resolved using <i>ab-initio</i> molecular orbital calculations, <i>S.T. Nakagawa, I. Suzue, M. Itoh, M. Kageyama, Y. Mizuno and H.J. Whitlow</i>	1289
Evaluation of tungsten coatings on CuCrZr and W/Cu FGM under high heat flux and HT-7 limiter plasma irradiation, <i>F.L. Chong, J.L. Chen and J.G. Li</i>	1201	Thermal properties of VPS-W coatings on CuCrZr alloy with Ti bonding layer, <i>T.G. Wang, J.L. Chen, Y. Chen and Y.C. Wu</i>	1294
Theoretical and experimental characterization of damaged graphite surfaces, <i>Y. Ferro, C. Thomas, T. Angot, P. Génésio and A. Allouche</i>	1206	Research and development of plasma sprayed tungsten coating on graphite and copper substrates, <i>X. Liu, F. Zhang, S. Tao, Y. Cao, Z. Xu, Y. Liu and N. Noda</i>	1299
Progress of research on plasma facing materials in University of Science and Technology Beijing, <i>C.-C. Ge, Z.-J. Zhou, S.-X. Song, J. Du and Z.-H. Zhong</i>	1211	Particle reflections of low energy light ions from a vanadium alloy (V-4Cr-4Ti), <i>H. Yamaoka, N. Tanaka, Y. Matsumoto, M. Nishiura, K. Tsumori, S. Takeuchi, H. Sugawara, K. Shinto, A. Okamoto, M. Sasao and M. Wada</i>	1304
High heat flux test of SiC coated doped graphite, <i>Q.G. Guo, Zh.J. Liu, J.G. Li, N. Noda, Y. Kubota and L. Liu</i>	1216	Performance of W/Cu FGM based plasma facing components under high heat load test, <i>Z.-J. Zhou, S.-X. Song, J. Du, Z.-H. Zhong and C.-C. Ge</i>	1309
Thermal response of structured and contaminated carbon surfaces to heat pulses, <i>D. Hildebrandt and A. Duebner</i>	1221	Particle balance under global wall saturation in long-pulse discharges of JT-60U, <i>T. Nakano, N. Asakura, H. Takenaga, H. Kubo, K. Shimizu, H. Kawashima and The JT-60 Team</i>	1315
High heat load properties of actively cooled tungsten/copper mock-ups by explosive joining, <i>H. Li, J.L. Chen, J.G. Li and Z.X. Li</i>	1226	ICRF long-pulse discharge and interaction with a chamber wall and antennas in LHD, <i>K. Saito, T. Mutoh, R. Kumazawa, T. Seki, Y. Nakamura, N. Ashikawa, K. Sato, M. Shoji, S. Masuzaki, T. Watari, H. Ogawa, H. Takeuchi, H. Kasahara, F. Shimpo, G. Nomura, M. Yokota, C. Takahashi, A. Komori, Y. Zhao, J.S. Yoon, J.G. Kwak and The LHD Experimental Group</i>	1323
Extremely low recycling and high power density handling in CDX-U lithium experiments, <i>R. Kaita, R. Majeski, R. Doerner, T. Gray, H. Kugel, T. Lynch, R. Maingi, D. Mansfield, V. Soukhanovskii, J. Spaleta, J. Timberlake and L. Zakharov</i>	1231	Thermal and non-thermal particle interaction with the LHCD launchers in Tore Supra, <i>A. Ekedahl, M. Goniche, C. Balorin, V. Basiuk, Ph. Bibet, M. Chantant,</i>	1323
Deuterium retention and surface modification of tungsten macrobrush samples exposed in FTU Tokamak, <i>G. Maddaluno, G. Giacomi, A. Rufoloni and L. Verdini</i>	1236		
Directly-cooled VPS-W/Cu limiter and its preliminary results in HT-7, <i>G.-N. Luo, M. Liu, Z.Q. Kuang, X.D. Zhang, Z.S. Yang, C.G. Deng, Z.C. Zhang, J.G. Li and K.S. Zhou</i>	1241		

<i>L. Colas, L. Delpech, C. Desgranges, L.-G. Eriksson, E. Joffrin, F. Kazarian, C. Lowry, Ph. Moreau, V. Petrzilka, C. Portafaix, M. Prou and H. Roche</i>	1329	<i>TEXTOR Team, D. Rudakov, S. Allen, R. Boivin, A. McLean, P. Stangeby, W. West, C. Wong and DIII-D Team, M. Lipa, B. Schunke and Tore-Supra Team, G. De Temmerman, R. Pitts and TCV Team, A. Costley, V. Voitsenya, K. Vukolov, P. Oelhafen, M. Rubel and A. Romanyuk</i>	1395
Limiter material experiments towards long pulse operation in the HT-7 superconducting tokamak, <i>J.L. Chen, F. Gao, J.G. Li and Q.F. Fang</i>	1334		
Siliconization for wall conditioning and its effect on plasma performance in HL-2A tokamak, <i>X.R. Duan, Z. Cao, C.H. Cui, X. Cai, H.J. Sun, X.T. Ding, Y.D. Pan, M.X. Wang, Q.W. Yang, X.M. Song, D.Q. Liu, Y. Liu, X.Q. Ji, Z.Y. Cui, Y. Zhou, Y. Liu and HL-2A Team</i>	1340	Effect of recombination and ionization on the analysis of Mach and single probes in un-magnetized and magnetized plasmas of MAP-II and DiPS devices, <i>K.-S. Chung, S. Kado, H.-J. Woo, Y.-J. Seo, T. Shikama, F. Scotti, G.-S. Choi and T. Lho</i>	1403
First experiments with lithium limiter on FTU, <i>M.L. Apicella, G. Mazzitelli, V. Pericoli Ridolfini, V. Lazarev, A. Alekseyev, A. Verikov, R. Zagórska and FTU Team</i>	1346	Power load during disruption in MAST, <i>E. Delchambre, G. Counsell, A. Kirk and F. Lott</i>	1409
Comparison of boronized wall in LHD and JT-60U, <i>N. Ashikawa, K. Kizu, J. Yagyu, T. Nakahata, Y. Nobuta, K. Nishimura, A. Yoshikawa, Y. Ishimoto, Y. Oya, K. Okuno, N. Miya, T. Hino, S. Masuzaki, A. Sagara, N. Ohyabu and LHD Experimental Group</i>	1352	Speckle interferometry diagnostic for erosion/redeposition measurement in tokamaks, <i>P. Doré and E. Gauthier</i>	1414
New scenarios of ICRF wall conditioning in TEXTOR and ASDEX Upgrade, <i>A. Lyssoivan, R. Koch, D. Van Eester, G. Van Wassenhove, M. Vervier, R. Weynants, M. Freisinger, A. Kreter, V. Philipps, H. Reimer, U. Samm, G. Sergienko, V. Bobkov, H.-U. Fahrbach, D. Hartmann, A. Herrmann, J.-M. Noterdaeme, V. Rohde, W. Suttrop, E. Gauthier, E. de la Cal and TEXTOR Team and ASDEX Upgrade Team</i>	1358	Dense plasma effects on atomic data and line emission of He I for divertor plasma conditions, <i>E.H. Guedda, M. Koubiti, F.B. Rosmej, R. Stamm and V.S. Lisitsa</i>	1420
Difference in oxygen impurity behavior between repetitive short discharges and one long discharge on TRIAM-1M, <i>M. Ogawa, M. Sakamoto, K.N. Sato, H. Zushi, K. Nakamura, K. Hanada, H. Idei, M. Hasegawa, S. Kawasaki, H. Nakashima, A. Higashijima and TRIAM Group</i>	1364	Calorimetric measurement of heat load in full non-inductive LHCD plasmas on TRIAM-1M, <i>K. Hanada, N. Shinoda, T. Sugata, K. Sasaki, H. Zushi, K. Nakamura, K.N. Sato, M. Sakamoto, H. Idei, M. Hasegawa, S. Kawasaki, H. Nakashima, A. Higashijima and TRIAM Group</i>	1425
Wall conditioning in ASDEX Upgrade, <i>V. Rohde, R. Dux, A. Kallenbach, K. Krieger, R. Neu and ASDEX Upgrade Team</i>	1369	Two-dimensional density profile measurement with a sheet thermal Li beam on CPD, <i>H. Zushi, T. Morisaki, Y. Inada, J. Bouchard, K. Nakashima, H. Tsuchiya, K. Hanada, K. Sasaki, R. Bhattacharyay, K.N. Sato, K. Nakamura, M. Sakamoto, H. Idei, M. Hasegawa, S. Kawasaki, H. Nakashima and A. Higashijima</i>	1429
In situ diagnostic for monitoring of deuterium and tritium in re-deposited carbon layers by laser induced desorption, <i>B. Schweer, F. Irrek, G. Sergienko, V. Philipps and U. Samm</i>	1375	Ion temperature measurements in the tokamak scrape-off layer, <i>M. Kočan, R. Pánek, J. Stöckel, M. Hron, J.P. Gunn and R. Ježárc</i>	1436
Reduced effective ionic charge and enhanced plasma performance in the HT-7 tokamak, <i>Z.W. Wu, J. Li, B.N. Wan, X.D. Zhang, X. Gao and J. Zhao</i>	1380	Study of highly ionized Xe spectra with 3s-3p and 3p-3d transitions in JT-60U reversed shear plasmas, <i>H. Kubo, A. Sasaki, K. Moribayashi, S. Higashijima, H. Takenaga, K. Shimizu, T. Nakano, A. Whiteford and T. Sugie</i>	1441
Relation between charge exchange flux and impurity influx studied by perturbation methods of gas puffing, heat load and confinement properties in TRIAM-1M, <i>H. Zushi, Y. Nozaki, R. Bhattacharyay, K. Nakashima, M. Sakamoto, K. Hanada, H. Idei, K. Nakamura, K.N. Sato, S. Nishi, M. Ogawa, K. Takaki, K. Sasaki, Y. Hirooka, M. Hasegawa, H. Xu, S. Kado, T. Shikama, S. Kawasaki, H. Nakashima and A. Higashijima</i>	1386	An electrostatic detector for dust measurement on HT-7 tokamak, <i>B.L. Ling, X.D. Zhang, A. Ti and X. Gao</i>	1446
Experimental developments towards an ITER thermography diagnostic, <i>R. Reichle, B. Brichard, F. Escourbiac, J.L. Gardarein, D. Hernandez, C. Le Niliot, F. Rigollet, J.J. Serra, J.M. Badie, S. van Ierschot, M. Jouve, S. Martinez, H. Ooms, C. Pocheau, X. Rauber, J.L. Sans, E. Scheer, F. Berghmans and M. Decréton</i>	1466	Surface temperature measurements by means of pulsed photothermal effects in fusion devices, <i>Th. Loarer, F. Brygo, E. Gauthier, C. Grisolía, F. Le Guern, F. Moreau, A. Murari, H. Roche and A. Semerok</i>	1450
Neutral pressure measured by fast ionization gauge in HL-2A, <i>M.X. Wang, L.W. Yan, W.Y. Hong, Z.Y. Cui, Y.D. Pan, L.H. Yao, Z. Cao, Q.W. Yang and Y. Liu</i>	1472	Catalytic probes for measuring H distribution in remote parts of hydrogen plasma reactors, <i>M. Mozetic, A. Vesel, A. Drenik, I. Poberaj and D. Babic</i>	1457
Preliminary observations of hot spot for HT-7 long pulse discharges, <i>M. Su, Y. Yang and The HT-7 Team</i>	1476	Controlling surface dust in a tokamak, <i>C.V. Parker, C.H. Skinner and A.L. Roquemore</i>	1461