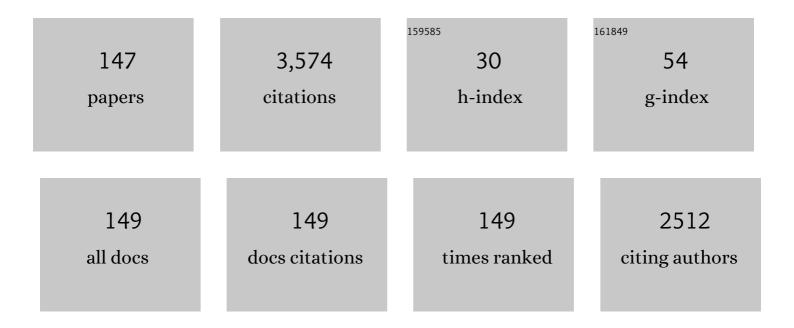
## Wolfgang Biel

List of Publications by Year in descending order

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WOLFCANC RIFL

#	Article	IF	CITATIONS
1	European DEMO design strategy and consequences for materials. Nuclear Fusion, 2017, 57, 092002.	3.5	233
2	DEMO design activity in Europe: Progress and updates. Fusion Engineering and Design, 2018, 136, 729-741.	1.9	224
3	Overview of the design approach and prioritization of R&D activities towards an EU DEMO. Fusion Engineering and Design, 2016, 109-111, 1464-1474.	1.9	178
4	Overview of first Wendelstein 7-X high-performance operation. Nuclear Fusion, 2019, 59, 112004.	3.5	165
5	Overview of the DEMO staged design approach in Europe. Nuclear Fusion, 2019, 59, 066013.	3.5	156
6	Major results from the first plasma campaign of the Wendelstein 7-X stellarator. Nuclear Fusion, 2017, 57, 102020.	3.5	128
7	Magnetic configuration effects on the Wendelstein 7-X stellarator. Nature Physics, 2018, 14, 855-860.	16.7	110
8	Dust particles in controlled fusion devices: morphology, observations in the plasma and influence on the plasma performance. Nuclear Fusion, 2001, 41, 1087-1099.	3.5	96
9	Confirmation of the topology of the Wendelstein 7-X magnetic field to better than 1:100,000. Nature Communications, 2016, 7, 13493.	12.8	85
10	The physics and technology basis entering European system code studies for DEMO. Nuclear Fusion, 2017, 57, 016011.	3.5	84
11	Technical challenges in the construction of the steady-state stellarator Wendelstein 7-X. Nuclear Fusion, 2013, 53, 126001.	3.5	77
12	Toroidal Plasma Rotation Induced by the Dynamic Ergodic Divertor in the TEXTOR Tokamak. Physical Review Letters, 2005, 94, 015003.	7.8	73
13	Diagnostics for plasma control – From ITER to DEMO. Fusion Engineering and Design, 2019, 146, 465-472.	1.9	71
14	Overview of radiative improved mode results on TEXTOR-94. Nuclear Fusion, 1999, 39, 1637-1648.	3.5	69
15	The DEMO wall load challenge. Nuclear Fusion, 2017, 57, 046002.	3.5	65
16	Development of laser-based diagnostics for surface characterisation of wall components in fusion devices. Fusion Engineering and Design, 2011, 86, 1336-1340.	1.9	64
17	Effect of the dynamic ergodic divertor in the TEXTOR tokamak on MHD stability, plasma rotation and transport. Nuclear Fusion, 2005, 45, 1700-1707.	3.5	58
18	Density limits in TEXTOR-94 auxiliary heated discharges. Nuclear Fusion, 1999, 39, 765-776.	3.5	56

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19	Complex Spectra in Fusion Plasmas. Physica Scripta, 2005, T120, 19-29.	2.5	48
20	Overview of diagnostic performance and results for the first operation phase in Wendelstein 7-X (invited). Review of Scientific Instruments, 2016, 87, 11D304.	1.3	45
21	Diagnostics and control for the steady state and pulsed tokamak DEMO. Nuclear Fusion, 2016, 56, 026009.	3.5	45
22	Operation of TEXTOR-94 with tungsten poloidal main limiters. Journal of Nuclear Materials, 2001, 290-293, 947-952.	2.7	42
23	A stepladder approach to a tokamak fusion power plant. Nuclear Fusion, 2017, 57, 086002.	3.5	42
24	DEMO physics challenges beyond ITER. Fusion Engineering and Design, 2020, 156, 111603.	1.9	40
25	The Set of Diagnostics for the First Operation Campaign of the Wendelstein 7-X Stellarator. Journal of Instrumentation, 2015, 10, P10002-P10002.	1.2	37
26	DEMO diagnostics and burn control. Fusion Engineering and Design, 2015, 96-97, 8-15.	1.9	35
27	The dynamic ergodic divertor in the TEXTOR tokamak: plasma response to dynamic helical magnetic field perturbations. Plasma Physics and Controlled Fusion, 2004, 46, B143-B155.	2.1	34
28	X-Ray Spectroscopy at the TEXTOR-94 Tokamak. Physica Scripta, 1999, T83, 132.	2.5	34
29	Design of a high–efficiency extreme ultraviolet overview spectrometer system for plasma impurity studies on the stellarator experiment Wendelstein 7-X. Review of Scientific Instruments, 2004, 75, 3268-3275.	1.3	32
30	Transport and divertor properties of the dynamic ergodic divertor. Plasma Physics and Controlled Fusion, 2005, 47, B237-B248.	2.1	32
31	Collisional excitation and emission ofHαStark multiplet in fusion plasmas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2010, 43, 011002.	1.5	31
32	10kHz repetitive high-resolution TV Thomson scattering on TEXTOR: Design and performance (invited). Review of Scientific Instruments, 2006, 77, 10E512.	1.3	28
33	Development of in situ cleaning techniques for diagnostic mirrors in ITER. Fusion Engineering and Design, 2011, 86, 1780-1783.	1.9	28
34	First results from the dynamic ergodic divertor at TEXTOR. Journal of Nuclear Materials, 2005, 337-339, 171-175.	2.7	25
35	Influence of the Dynamic Ergodic Divertor on the Density Limit in TEXTOR. Physical Review Letters, 2005, 94, 105003.	7.8	24
36	Overview on R&D and design activities for the ITER core charge exchange spectroscopy diagnostic system. Fusion Engineering and Design, 2011, 86, 548-551.	1.9	24

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37	Initial definition of structural load conditions in DEMO. Fusion Engineering and Design, 2017, 124, 633-637.	1.9	21
38	Operational limits under different wall conditions on TEXTOR-94. Journal of Nuclear Materials, 2001, 290-293, 1148-1154.	2.7	20
39	Development of a multichannel dispersion interferometer at TEXTOR. Review of Scientific Instruments, 2008, 79, 10E708.	1.3	20
40	First results from the modular multi-channel dispersion interferometer at the TEXTOR tokamak. Review of Scientific Instruments, 2011, 82, 063509.	1.3	20
41	Progress in EU-DEMO in-vessel components integration. Fusion Engineering and Design, 2017, 124, 562-566.	1.9	20
42	High-resolution x-ray crystal spectrometer/polarimeter at torus experiment for technology oriented research-94. Review of Scientific Instruments, 2001, 72, 2566-2574.	1.3	19
43	Compact imaging Bragg spectrometer for fusion devices. Review of Scientific Instruments, 2004, 75, 3727-3729.	1.3	19
44	Overview of Experiments with the Dynamic Ergodic Divertor on TEXTOR. Contributions To Plasma Physics, 2006, 46, 515-526.	1.1	19
45	Dust investigations in TEXTOR: Impact of dust on plasma–wall interactions and on plasma performance. Journal of Nuclear Materials, 2013, 438, S126-S132.	2.7	19
46	Diagnostic set-up and modelling for investigation of synergy between 3D edge physics and plasma-wall interactions on Wendelstein 7-X. Nuclear Fusion, 2017, 57, 066049.	3.5	18
47	Impact of plasma-wall interaction and exhaust on the EU-DEMO design. Nuclear Materials and Energy, 2021, 26, 100897.	1.3	18
48	Determination of atomic and molecular particle densities and temperatures in a low-pressure hydrogen hollow cathode discharge. Plasma Physics and Controlled Fusion, 1997, 39, 661-681.	2.1	17
49	Absolute intensity calibration of the Wendelstein 7-X high efficiency extreme ultraviolet overview spectrometer system. Review of Scientific Instruments, 2008, 79, 093504.	1.3	17
50	Review of atomic data needs for active charge-exchange spectroscopy on ITER. Review of Scientific Instruments, 2008, 79, 10F532.	1.3	17
51	Diagnostic setup for investigation of plasma wall interactions at Wendelstein 7-X. Fusion Engineering and Design, 2015, 96-97, 891-894.	1.9	17
52	Comparison of impurity transport model with measurements of He-like spectra of argon at the tokamak TEXTOR. Plasma Physics and Controlled Fusion, 2006, 48, 1633-1646.	2.1	16
53	High efficiency extreme ultraviolet overview spectrometer: Construction and laboratory testing. Review of Scientific Instruments, 2006, 77, 10F305.	1.3	16
54	Active beam spectroscopy for ITER. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 623, 720-725.	1.6	16

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55	Uncertainties in power plant design point evaluations. Fusion Engineering and Design, 2017, 123, 63-66.	1.9	16
56	Development of a concept and basis for the DEMO diagnostic and control system. Fusion Engineering and Design, 2022, 179, 113122.	1.9	16
57	Diagnostics design for steady-state operation of the Wendelstein 7-X stellarator. Review of Scientific Instruments, 2010, 81, 10E133.	1.3	15
58	Electromagnetic modeling and subsequent structural analysis for ITER core CXRS upper port plug diagnostic structure. Fusion Engineering and Design, 2011, 86, 2016-2020.	1.9	15
59	Development of design options for the port plug components of the ITER core CXRS diagnostic. Fusion Engineering and Design, 2011, 86, 2055-2059.	1.9	15
60	Startup impurity diagnostics in Wendelstein 7-X stellarator in the first operational phase. Journal of Instrumentation, 2015, 10, P10015-P10015.	1.2	15
61	Approaches to Analyze Structural Issues of the European DEMO Toroidal Field Coil System at an Early Design Stage. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.7	15
62	10â€,kHz repetitive high-resolution TV Thomson scattering on TEXTOR. Review of Scientific Instruments, 2004, 75, 3849-3851.	1.3	14
63	Overview of Core Diagnostics for TEXTOR. Fusion Science and Technology, 2005, 47, 220-245.	1.1	14
64	Bolometer developments in diagnostics for magnetic confinement fusion. Journal of Instrumentation, 2019, 14, C10004-C10004.	1.2	14
65	The TEC Web-Umbrella. Fusion Engineering and Design, 2002, 60, 475-480.	1.9	13
66	Status of the DNB based ITER CXRS and BES diagnostic. Review of Scientific Instruments, 2006, 77, 10F516.	1.3	13
67	Validation of the ITER CXRS design by tests on TEXTOR. Review of Scientific Instruments, 2008, 79, 10F526.	1.3	13
68	Structural Analysis of a Prototype Fast Shutter for ITER cCXRS Diagnostic. IEEE Transactions on Plasma Science, 2012, 40, 746-752.	1.3	13
69	Test of prototype ITER vacuum ultraviolet spectrometer and its application to impurity study in KSTAR plasmas. Review of Scientific Instruments, 2014, 85, 11E403.	1.3	13
70	Integration Concept of the Reflectometry Diagnostic for the Main Plasma in DEMO. IEEE Transactions on Plasma Science, 2018, 46, 451-457.	1.3	13
71	Detector system with high time resolution for the continuous measurement of spectra in the vacuum ultraviolet wavelength range. Review of Scientific Instruments, 2004, 75, 2471-2474.	1.3	12
72	Vacuum Ultraviolet Spectroscopy at TEXTOR. Fusion Science and Technology, 2005, 47, 246-252.	1.1	11

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73	Method to obtain absolute impurity density profiles combining charge exchange and beam emission spectroscopy without absolute intensity calibration. Review of Scientific Instruments, 2012, 83, 10D519.	1.3	11
74	Active Beam Spectroscopy. AIP Conference Proceedings, 2008, , .	0.4	10
75	Transport of argon and iron during a resonant magnetic perturbation at TEXTOR-DED. Plasma Physics and Controlled Fusion, 2009, 51, 032001.	2.1	10
76	Conceptual design of the ITER upper port plug for charge exchange diagnostic. Fusion Engineering and Design, 2009, 84, 1671-1675.	1.9	10
77	Development of two-channel prototype ITER vacuum ultraviolet spectrometer with back-illuminated charge-coupled device and microchannel plate detectors. Review of Scientific Instruments, 2010, 81, 10E508.	1.3	10
78	Comparison of effective rate coefficients for high energy charge-exchange with measurements of the Rydberg series of Ar16+at the tokamak TEXTOR. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 144033.	1.5	10
79	Studies of protection and recovery techniques of diagnostic mirrors for ITER. Nuclear Fusion, 2015, 55, 093015.	3.5	10
80	Kinetics of highly excited states in Ar17+charge exchange recombination fusion plasma spectroscopy. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 165701.	1.5	9
81	A high etendue spectrometer suitable for core charge eXchange recombination spectroscopy on ITER. Review of Scientific Instruments, 2012, 83, 10D515.	1.3	9
82	The ITER Thomson scattering core LIDAR diagnostic. Journal of Instrumentation, 2012, 7, C03043-C03043.	1.2	9
83	Status of the R&D activities to the design of an ITER core CXRS diagnostic system. Fusion Engineering and Design, 2015, 96-97, 129-135.	1.9	9
84	Nuclear and thermal analysis of a multi-reflectometer system for DEMO. Fusion Engineering and Design, 2021, 167, 112349.	1.9	9
85	Dealing with uncertainties in fusion power plant conceptual development. Nuclear Fusion, 2017, 57, 046024.	3.5	8
86	Systems code studies on the optimization of design parameters for a pulsed DEMO tokamak reactor. Fusion Engineering and Design, 2017, 123, 206-211.	1.9	8
87	Mechanical pre-dimensioning and pre-optimization of the tokamaks' toroidal coils featuring the winding pack layout. Fusion Engineering and Design, 2017, 124, 77-81.	1.9	8
88	Conceptual studies on spectroscopy and radiation diagnostic systems for plasma control on DEMO. Fusion Engineering and Design, 2019, 146, 2297-2301.	1.9	8
89	Simulation of magnetic control of the plasma shape on the DEMO tokamak. Fusion Engineering and Design, 2019, 146, 728-731.	1.9	8
90	The EU DEMO equatorial outboard limiter — Design and port integration concept. Fusion Engineering and Design, 2020, 158, 111647.	1.9	8

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91	Impact of the plasma operation on the technical requirements in EU-DEMO. Fusion Engineering and Design, 2022, 179, 113123.	1.9	8
92	Dynamic structural analysis of a fast shutter with a pneumatic actuator. Fusion Engineering and Design, 2013, 88, 2133-2137.	1.9	7
93	Status of the diagnostics development for the first operation phase of the stellarator Wendelstein 7-X. Review of Scientific Instruments, 2014, 85, 11D818.	1.3	7
94	Investigations of the first-wall erosion of DEMO with the CELLSOR code. Nuclear Materials and Energy, 2017, 12, 1163-1170.	1.3	7
95	Heating & current drive efficiencies, TBR and RAMI considerations for DEMO. Fusion Engineering and Design, 2017, 123, 495-499.	1.9	7
96	Design of ITER divertor VUV spectrometer and prototype test at KSTAR tokamak. European Physical Journal D, 2017, 71, 1.	1.3	7
97	Pre-conceptual study of the European DEMO neutron diagnostics. Journal of Instrumentation, 2019, 14, C09001-C09001.	1.2	7
98	Impurity release and recycling behaviour in TEXTOR-94 with siliconised walls. Journal of Nuclear Materials, 2001, 290-293, 1190-1194.	2.7	6
99	High-throughput EUV reflectometer for EUV mask blanks. , 2004, , .		6
100	A non-statistical atomic model for beam emission and motional Stark effect diagnostics in fusion plasmas. Review of Scientific Instruments, 2012, 83, 10D504.	1.3	6
101	Approaches to multifield numerical analysis for components of the ITER core CXRS upper port plug diagnostics. Fusion Engineering and Design, 2013, 88, 2015-2020.	1.9	6
102	Fast shutter concepts for the new ITER core CXRS upper port plug baseline considering the actuator located inside and outside the port plug. Fusion Engineering and Design, 2013, 88, 2073-2076.	1.9	6
103	Design overview of the ITER core CXRS fast shutter and manufacturing implications during the detailed design work. Fusion Engineering and Design, 2015, 96-97, 746-750.	1.9	6
104	Mirror Station for studies of the protection of diagnostic mirrors from impurity contamination in ITER: Design and first results. Fusion Engineering and Design, 2015, 96-97, 290-293.	1.9	6
105	Conceptual studies of gamma ray diagnostics for DEMO control. Fusion Engineering and Design, 2018, 136, 1494-1498.	1.9	6
106	New diagnostics for physics studies on TEXTOR-94 (invited). Review of Scientific Instruments, 2001, 72, 1046-1053.	1.3	5
107	Optimization of the availability of the core CXRS diagnostics for ITER. Fusion Engineering and Design, 2011, 86, 1174-1177.	1.9	5
108	Diagnostics Development for Steady State Operation of the Stellarator Wendelstein 7-X. Contributions To Plasma Physics, 2011, 51, 271-278.	1.1	5

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109	Non-statistical simulations for neutral beam spectroscopy in fusion plasmas. , 2012, , .		5
110	Major aspects of the design of a first mirror for the ITER core CXRS diagnostics. Fusion Engineering and Design, 2015, 96-97, 812-816.	1.9	5
111	VUV spectroscopy in impurity injection experiments at KSTAR using prototype ITER VUV spectrometer. Review of Scientific Instruments, 2017, 88, 083511.	1.3	5
112	TFC-PREDIM: A FE dimensioning procedure for the TF coil system of a DEMO tokamak reactor. Fusion Engineering and Design, 2020, 159, 111948.	1.9	5
113	Study of oscillating magnetized hollow cathode arcs by time-resolved Thomson scattering measurements. Plasma Physics and Controlled Fusion, 1995, 37, 599-610.	2.1	4
114	Investigation of oscillations and anomalous transport in a hydrogen hollow cathode discharge by a spatially three-dimensional two-fluid model. Plasma Physics and Controlled Fusion, 1998, 40, 1845-1867.	2.1	4
115	Local emission and core concentration of tungsten in TEXTOR-94 plasmas operated with tungsten test and poloidal limiters. Journal of Nuclear Materials, 2001, 290-293, 768-772.	2.7	4
116	Non-statistical populations of magnetic sublevels of hydrogen beam atoms in fusion plasmas. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 623, 738-740.	1.6	4
117	Feasibility of Upper Port Plug tube handling. Fusion Engineering and Design, 2011, 86, 2060-2063.	1.9	4
118	Thermal and hydraulic performance of the helium-operated shutter protecting the first mirror of the ITER diagnostics. Fusion Engineering and Design, 2013, 88, 1288-1292.	1.9	4
119	Dynamic performance of frictionless fast shutters for ITER: Numerical and analytical sensitivity study for the development of a test program. Fusion Engineering and Design, 2015, 96-97, 903-906.	1.9	4
120	Comment on â€~On the fusion triple product and fusion power gain of tokamak pilot plants and reactors', by A. Costley. Nuclear Fusion, 2017, 57, 038001.	3.5	4
121	Detailed structural analysis of a graded TF coil winding pack for EU DEMO. Fusion Engineering and Design, 2019, 146, 535-538.	1.9	4
122	Preliminary study of a visible, high spatial resolution spectrometer for DEMO divertor survey. Journal of Instrumentation, 2020, 15, C01008-C01008.	1.2	4
123	DesignÂand integration studies of a diagnostics slimÂcassette concept for DEMO. Nuclear Fusion, 2021, 61, 116046.	3.5	4
124	Selected Design Solutions for the Integration of the CXRS Diagnostic in to ITER Upper Port Plug No. 3. Fusion Science and Technology, 2009, 56, 134-138.	1.1	3
125	Atomic data for beam-stimulated plasma spectroscopy in fusion plasmas. AIP Conference Proceedings, 2013, , .	0.4	3
126	Aim and features of the simplified parametric mock-up of a fast shutter developed for ITER optical diagnostics. Fusion Engineering and Design, 2015, 96-97, 786-789.	1.9	3

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127	Erosion of installations in ports of a fusion reactor by hot fuel atoms. Nuclear Materials and Energy, 2017, 12, 1298-1302.	1.3	3
128	Implications of uncertainties on European DEMO design. Nuclear Fusion, 2019, 59, 066012.	3.5	3
129	Design considerations of the European DEMO's IR-interferometer/polarimeter based on TRAVIS simulations. Journal of Instrumentation, 2022, 17, C04001.	1.2	3
130	Study of the Relevance of Thermal Instability Caused by Impurity Radiation to MARFE Development in a Limiter Tokamak. Contributions To Plasma Physics, 2002, 42, 290-295.	1.1	2
131	Turbulence investigations during ergodic divertor operation with induced 2/1 tearing mode. European Physical Journal D, 2005, 55, 295-306.	0.4	2
132	Fluctuation BES measurements with the ITER core CXRS prototype spectrometer. Fusion Engineering and Design, 2013, 88, 1386-1389.	1.9	2
133	Nuclear analysis of the DEMO divertor survey visible high-resolution spectrometer. Fusion Engineering and Design, 2021, 169, 112460.	1.9	2
134	Heat load to a tantalum–tungsten twin-test-limiter and the effect to high-Z core plasma concentration of TEXTOR-94. Journal of Nuclear Materials, 2002, 307-311, 149-153.	2.7	1
135	Effect upon the core plasma radiation due to high power laser injection onto C, W and Ta test-limiters in TEXTOR. Journal of Nuclear Materials, 2003, 313-316, 1156-1160.	2.7	1
136	High speed reflectometer for EUV mask-blanks. , 2005, 5835, 252.		1
137	High speed reflectometer for EUV mask-blanks. , 2005, , .		1
138	Kinetics of highly excited states in Ar17+charge exchange recombination fusion plasma spectroscopy. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 189801-189801.	1.5	1
139	Alternative system design concepts for the ITER core CXRS upper port plug front end. Fusion Engineering and Design, 2011, 86, 1306-1309.	1.9	1
140	Measurement of Plasma Density in Modern Fusion Devices by Dispersion Interferometer. Fusion Science and Technology, 2011, 59, 120-123.	1.1	1
141	Investigation of advanced materials for fusion alpha particle diagnostics. Fusion Engineering and Design, 2013, 88, 533-536.	1.9	1
142	Deposition of Silicon on Carbon Surfaces During Tokamak Discharges at TEXTOR-94. Physica Scripta, 1999, T81, 70.	2.5	1
143	The CXRS diagnostic for ITER and the CXRS-Pilot Experiment on TEXTOR. AIP Conference Proceedings, 2008, , .	0.4	0
144	Performance analysis for an infrared second harmonics dispersion interferometer. , 2009, , .		0

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145	Structural analysis of a prototype fast shutter for ITER cCXRS diagnostic. , 2011, , .		Ο
146	First fusion proton measurements in TEXTOR plasmas using activation technique. Review of Scientific Instruments, 2012, 83, 10D318.	1.3	0
147	Retractable tube design issues in ITER CXRS UPP #3. Fusion Engineering and Design, 2013, 88, 1352-1356.	1.9	0