Marie-France Barthe

List of Publications by Year
in descending order

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135	3,696	186265	144013
papers	citations	28 h-index	57 g-index

137	137	137	3491
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Recent progress in research on tungsten materials for nuclear fusion applications in Europe. Journal of Nuclear Materials, 2013, 432, 482-500.	2.7	610
2	Strong Coupling of a Spin Ensemble to a Superconducting Resonator. Physical Review Letters, 2010, 105, 140502.	7.8	541
3	Review on the EFDA programme on tungsten materials technology and science. Journal of Nuclear Materials, 2011, 417, 463-467.	2.7	157
4	Alpha-radiolysis effects on UO2 alteration in water. Journal of Nuclear Materials, 2001, 288, 11-19.	2.7	144
5	First temperature stage evolution of irradiation-induced defects in tungsten studied by positron annihilation spectroscopy. Journal of Nuclear Materials, 2008, 376, 216-221.	2.7	116
6	On the analysis of diffuse reflectance measurements to estimate the optical properties of amorphous porous carbons and semiconductor/carbon catalysts. Journal of Photochemistry and Photobiology A: Chemistry, 2020, 398, 112622.	3.9	72
7	Positronium reemission yield from mesostructured silica films. Applied Physics Letters, 2008, 92, .	3.3	70
8	Helium behaviour and vacancy defect distribution in helium implanted tungsten. Journal of Nuclear Materials, 2007, 362, 181-188.	2.7	69
9	Helium retention and early stages of helium-vacancy complexes formation in low energy helium-implanted tungsten. Journal of Nuclear Materials, 2013, 433, 305-313.	2.7	69
10	A brief summary of the progress on the EFDA tungsten materials program. Journal of Nuclear Materials, 2013, 442, S173-S180.	2.7	69
11	Vacancy defects inp-type6Hâ˜SiCcreated by low-energy electron irradiation. Physical Review B, 2000, 62, 10841-10846.	3.2	63
12	Addition versus radiolytic production effects of hydrogen peroxide on aqueous corrosion of UO2. Journal of Nuclear Materials, 2006, 348, 1-17.	2.7	56
13	Low energy and low fluence helium implantations in tungsten: Molecular dynamics simulations and experiments. Journal of Nuclear Materials, 2016, 470, 44-54.	2.7	51
14	Optimal conditions for<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>N</mml:mi><mml:msup><mml:mi>V</mml:mi><mml:mo>â˜</mml:mo></mml:msup></mml:mr formation in type-1b diamond studied using photoluminescence and positron annihilation spectroscopies. Physical Review B, 2011, 84, .	3.2	48
15	Positron annihilation studies on the nature and thermal behaviour of irradiation induced defects in tungsten. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2329-2332.	0.8	47
16	Silicon vacancy-type defects in as-received and 12-MeV proton-irradiated6Hâ˜SiCstudied by positron annihilation spectroscopy. Physical Review B, 2003, 67, .	3.2	43
17	He migration in implanted UO2 sintered disks. Journal of Nuclear Materials, 2004, 327, 88-96.	2.7	42
18	Trapping and release of helium in tungsten. Journal of Nuclear Materials, 2011, 416, 13-17.	2.7	41

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19	Investigation of laser sputtering of iron at low fluence using resonance ionization mass spectrometry. Journal of Applied Physics, 1993, 74, 3506-3513.	2.5	40
20	Identification of the Nitrogen Split Interstitial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mo stretchy="false">(</mml:mo><mml:mi mathvariant="bold">N</mml:mi><mml:mtext) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 702 Td (mat	7.8	38
21	Physical Review Letters, 2012, 109, 206402. Slow Positron Beam Facility in OrlÃ©ans. Materials Science Forum, 2001, 363-365, 523-525.	0.3	37
22	In situ Raman monitoring of materials under irradiation: study of uranium dioxide alteration by water radiolysis. Journal of Raman Spectroscopy, 2012, 43, 1492-1497.	2.5	37
23	Optical transitions of the silicon vacancy in6Hâ^'SiCstudied by positron annihilation spectroscopy. Physical Review B, 2002, 66, .	3.2	36
24	Positron annihilation in latex-templated macroporous silica films: pore size and ortho-positronium escape. New Journal of Physics, 2012, 14, 065009.	2.9	36
25	Retention and release of hydrogen isotopes in tungsten plasma-facing components: the role of grain boundaries and the native oxide layer from a joint experiment-simulation integrated approach. Nuclear Fusion, 2017, 57, 076019.	3.5	33
26	Thermal behaviour of helium in silicon carbide: Influence of microstructure. Vacuum, 2009, 83, S36-S39.	3.5	32
27	Helium interaction with vacancy-type defects created in silicon carbide single crystal. Journal of Nuclear Materials, 2013, 436, 150-157.	2.7	32
28	Positron annihilation spectroscopy investigation of vacancy clusters in silicon carbide: Combining experiments and electronic structure calculations. Physical Review B, 2014, 89, .	3.2	30
29	Helium behavior in UO2 polycrystalline disks. Journal of Nuclear Materials, 2003, 321, 121-128.	2.7	29
30	Profile measurements of helium implanted in UO2 sintered pellets by using the 3He(d,Î±)1H nuclear reaction analysis technique. Journal of Nuclear Materials, 2004, 327, 159-164.	2.7	29
31	Three-dimensional scanning transmission electron microscopy of dislocation loops in tungsten. Micron, 2018, 113, 24-33.	2.2	29
32	Evidence for negatively charged vacancy defects in 6H-SiC after low-energy proton implantation. Applied Physics Letters, 2001, 78, 1234-1236.	3.3	28
33	Modelling of the implantation and the annealing stages of 800keV 3He implanted tungsten: Formation of nanovoids in the near surface region. Journal of Nuclear Materials, 2012, 429, 78-91.	2.7	28
34	Modelling radiation damage and He production in tungsten. Physica Scripta, 2011, T145, 014048.	2.5	26
35	Increase of the uranium release at an UO2/H2O interface under He2+ ion beam irradiation. Nuclear Instruments & Methods in Physics Research B, 2001, 179, 225-229.	1.4	24
36	Coupled experimental and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>DFT</mml:mi><mml:mspace width="0.16em" /><mml:mo>+</mml:mo><mml:mspace width="0.16em" /><mml:mi>U</mml:mi></mml:mrow></mml:math>investigation of positron lifetimes in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>UO</mml:mi><mml:mn>2</mml:mn></mml:msub></mml Physical Review B, 2014, 90, .	3.2	24

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37	Positron annihilation characteristics in UO₂: for lattice and vacancy defects induced by electron irradiation. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3627-3632.	0.8	23
38	A study of helium mobility in polycrystalline uranium dioxide. Journal of Nuclear Materials, 2012, 430, 156-165.	2.7	23
39	Quantification of irradiation-induced defects in UO2 using Raman and positron annihilation spectroscopies. Acta Materialia, 2019, 164, 512-519.	7.9	23
40	Accurate automated non-resonant NRA depth profiling: Application to the low 3He concentration detection in UO2 and SiC. Nuclear Instruments & Methods in Physics Research B, 2007, 258, 471-478.	1.4	22
41	Involvement of hydrogen-vacancy complexes in the baking effect of niobium cavities. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	22
42	Determination of the disorder profile in an ionâ€implanted silicon carbide single crystal by Raman spectroscopy. Journal of Raman Spectroscopy, 2012, 43, 939-944.	2.5	22
43	A NRA study of temperature and heavy ion irradiation effects on helium migration in sintered uranium dioxide. Journal of Nuclear Materials, 2006, 357, 198-205.	2.7	21
44	In-Situ Raman Observation of the First Step of Uranium Dioxide Weathering Exposed to Water Radiolysis. Spectroscopy Letters, 2011, 44, 570-573.	1.0	21
45	Photocrosslinking of poly(N-vinylcarbazole): Implementing a complementary set of techniques to characterize the three-dimensional network formation. Polymer Degradation and Stability, 2008, 93, 1376-1382.	5.8	20
46	Experimental location of helium atoms in 6Hâ€“SiC crystal lattice after implantation and after annealing at 400 Â°C. Journal of Nuclear Materials, 2015, 459, 62-69.	2.7	20
47	Thermal evolution of the vacancy defects distribution in 1MeV helium implanted sintered UO2. Nuclear Instruments & Methods in Physics Research B, 2007, 261, 883-887.	1.4	19
48	Passive samplers versus surfactant extraction for the evaluation of PAH availability in sediments with variable levels of contamination. Chemosphere, 2008, 71, 1486-1493.	8.2	19
49	Characterization of Nuclear Materials in Extreme Conditions: Raman Spectroscopy Approach. IEEE Transactions on Nuclear Science, 2014, 61, 2045-2051.	2.0	19
50	FT-ICR with laser ablation and AMS combined with X-ray detection, applied to the measurement of long-lived radionuclides from fission or activation: preliminary results. Nuclear Instruments & Methods in Physics Research B, 1993, 79, 617-619.	1.4	17
51	Positron annihilation at proton-induced defects in6Hâ^'SiC/SiCand6Hâ^'SiC/SiO2/Sistructures. Physical Review B, 2000, 62, 16638-16644.	3.2	17
52	Silicon displacement threshold energy determined by electron paramagnetic resonance and positron annihilation spectroscopy in cubic and hexagonal polytypes of silicon carbide. Journal of Nuclear Materials, 2007, 362, 202-207.	2.7	17
53	Irradiation creep and microstructural changes of ODS steels of different Cr-contents during helium implantation under stress. Journal of Nuclear Materials, 2013, 437, 432-437.	2.7	17
54	Helium effects on creep properties of Feâ€“14CrWTi ODS steel at 650 Â°C. Journal of Nuclear Materials, 2014, 453, 253-258.	2.7	17

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55	Tritium retention in W plasma-facing materials: Impact of the material structure and helium irradiation. Nuclear Materials and Energy, 2019, 19, 403-410.	1.3	17
56	Vacancy defects induced in sintered polished UO2 disks by helium implantation. Applied Surface Science, 2006, 252, 3256-3261.	6.1	16
57	Dislocation loops in ultra-high purity Fe(Cr) alloys after 7.2â€¯MeV proton irradiation. Journal of Nuclear Materials, 2018, 503, 81-90.	2.7	16
58	Comparative study of deuterium retention and vacancy content of self-ion irradiated tungsten. Journal of Nuclear Materials, 2022, 558, 153373.	2.7	16
59	Positron annihilation states at interfaces: evidence of divacancies. Journal of Physics Condensed Matter, 1997, 9, 10595-10601.	1.8	14
60	Copolyimides containing alicyclic and fluorinated groups: Characterization of the film microstructure. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 2998-3010.	2.1	14
61	A quantitative Î¼NRA study of helium intergranular and volume diffusion in sintered UO2. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 509-512.	1.4	14
62	Orthopositronium annihilation and emission in mesostructured thin silica and silicalite-1 films. Applied Surface Science, 2008, 255, 187-190.	6.1	14
63	Helium desorption in 3He implanted tungsten at low energy. Journal of Nuclear Materials, 2011, 417, 504-507.	2.7	14
64	Investigation of defects in actinide-doped UO2 by positron annihilation spectroscopy. Journal of Nuclear Materials, 2012, 420, 63-68.	2.7	14
65	Substrate temperature and ion kinetic energy effects on first steps of He+ implantation in tungsten: Experiments and simulations. Acta Materialia, 2017, 141, 47-58.	7.9	14
66	Tuneable interplay between atomistic defects morphology and electrical properties of transparent p-type highly conductive off-stoichiometric Cu-Cr-O delafossite thin films. Scientific Reports, 2020, 10, 1416.	3.3	14
67	Microstructure effects on He diffusion in sintered UO2 by Î¼NRA. Nuclear Instruments & Methods in Physics Research B, 2005, 240, 271-276.	1.4	12
68	Influence of ion energy on damage induced by Au-ion implantation in silicon carbide single crystals. Journal of Materials Science, 2011, 46, 6390-6395.	3.7	12
69	Effect of purity on the vacancy defects induced in selfâ€“irradiated tungsten: A combination of PAS and TEM. Journal of Nuclear Materials, 2021, 556, 153175.	2.7	12
70	Swift Heavy Ion Irradiation Effects in SiC Measured by Positrons. Materials Science Forum, 2001, 363-365, 123-125.	0.3	11
71	Comparative study of deuterium retention in irradiated Eurofer and Feâ€“Cr from a new ion implantation materials facility. Nuclear Fusion, 2020, 60, 016024.	3.5	11
72	Near Surface Vacancy Defects in Sintered Polished UO2 Disks. Materials Science Forum, 2004, 445-446, 48-50.	0.3	10

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73	Structural and nuclear characterizations of defects created by noble gas implantation in silicon oxide. Nuclear Instruments & Methods in Physics Research B, 2006, 253, 222-226.	1.4	10
74	Lattice location and annealing behaviour of helium atoms implanted in uranium dioxide single crystals. Journal of Nuclear Materials, 2015, 467, 1-8.	2.7	10
75	Soft laser sputtering of GaAs semiconductor (100) surface. Journal of Applied Physics, 1995, 78, 3411-3422.	2.5	9
76	Thermal evolution of vacancy defects induced in sintered UO2 disks by helium implantation. Applied Surface Science, 2006, 252, 3262-3268.	6.1	9
77	Determination of defects in 6Hâ€“SiC single crystals irradiated with 20MeV Au ions. Applied Surface Science, 2008, 255, 78-80.	6.1	9
78	Helium desorption in 3He implanted tungsten at low fluence and low energy. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 223-226.	1.4	9
79	Positron studies of interaction between yttrium atoms and vacancies in bcc iron with relevance for ODS nanoparticles formation. Journal of Nuclear Materials, 2014, 455, 398-401.	2.7	9
80	Helium behavior in Î±-SiC ceramics investigated by NRA technique. Nuclear Instruments & Methods in Physics Research B, 2007, 257, 231-235.	1.4	8
81	Vacancy type defect formation in irradiated Î±-iron investigated by positron beam Doppler broadening technique. Journal of Physics: Conference Series, 2014, 505, 012018.	0.4	8
82	Tungsten as a plasma-facing material in fusion devices: impact of helium high-temperature irradiation on hydrogen retention and damages in the material. Physica Scripta, 2017, T170, 014023.	2.5	8
83	Fully self-consistent calculations of momentum distributions of annihilating electron-positron pairs in SiC. Physical Review B, 2016, 93, .	3.2	7
84	Experimental study of the diffusion of Xe and Kr implanted at low concentrations in UO2 and determination of their trapping mechanisms. Journal of Nuclear Materials, 2021, 556, 153174.	2.7	7
85	Pulsed laser sputtering of the (100)GaAlAs surface. Journal of Applied Physics, 1996, 79, 1099.	2.5	6
86	Modifications of He implantation induced cavities in silicon by MeV silicon implantation. Applied Surface Science, 2006, 252, 3231-3236.	6.1	6
87	Helium behaviour in UO2 through low fluence ion implantation studies. Nuclear Instruments & Methods in Physics Research B, 2014, 327, 113-116.	1.4	6
88	Improved tungsten moderator structures for slow positron beams. Applied Surface Science, 2002, 194, 16-19.	6.1	5
89	Characterization of 3C-SiC Monocrystals Using Positron Annihilation Spectroscopy. Materials Science Forum, 2004, 457-460, 825-828.	0.3	5
90	Nanocavity Generation in SiO[sub 2] by Kr and Xe Ion Implantation. Electrochemical and Solid-State Letters, 2007, 10, G72.	2.2	5

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91	Quantitative ion beam analysis of Mâ€“Câ€“O systems: application to an oxidized uranium carbide sample. Philosophical Magazine, 2014, 94, 1177-1191.	1.6	5
92	Positron Annihilation Spectroscopy to Characterize Irradiation Induced Vacancy Type Defects in Materials for Nuclear Fission and Fusion. EPJ Web of Conferences, 2016, 115, 03004.	0.3	5
93	Fast analysis of oxygen in fluoride glasses (ZBLAN) by charged-particle activation [16O(d, n)17F]. Nuclear Instruments & Methods in Physics Research B, 1990, 45, 105-106.	1.4	4
94	Negatively charged vacancy defects in 6Hâ€“SiC after low-energy proton implantation and annealing. Physica B: Condensed Matter, 2001, 308-310, 668-670.	2.7	4
95	Vacancy Defects in As-Polished and in High-Fluence H⁺-Implanted 6H-SiC Detected by Slow Positron Annihilation Spectroscopy. Materials Science Forum, 2002, 389-393, 493-496.	0.3	4
96	POSITRON INTERACTION IN POLYMERS. International Journal of Modern Physics A, 2004, 19, 3951-3959.	1.5	4
97	Vacancy Defects Induced by Low Energy Electron Irradiation in 6H and 3C-SiC Monocrystals Characterized by Positron Annihilation Spectroscopy and Electron Paramagnetic Resonance. Materials Science Forum, 2006, 527-529, 571-574.	0.3	4
98	Anomalous Evolution of Bubbles in Krypton-Implanted SiO2. Materials Research Society Symposia Proceedings, 2007, 994, 1.	0.1	4
99	Spatial effects in the 800keV 3He implantation in W followed by isochronal annealing at 900K. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 87-90.	1.4	4
100	Experimental study of UC polycrystals in the prospect of improving the as-fabricated sample purity. Nuclear Instruments & Methods in Physics Research B, 2014, 341, 72-76.	1.4	4
101	Low flux and low energy helium ion implantation into tungsten using a dedicated plasma source. Nuclear Instruments & Methods in Physics Research B, 2016, 383, 38-46.	1.4	4
102	Laser induced nitridation of Ga on GaAs surfaces. Applied Surface Science, 1996, 96-98, 359-362.	6.1	3
103	Vacancy defects induced in the track region of 132MeV 12C irradiated SiC. Nuclear Instruments & Methods in Physics Research B, 2006, 250, 259-262.	1.4	3
104	Aging effects in polypyrrole probed by positron annihilation. Synthetic Metals, 1999, 101, 383-384.	3.9	2
105	Strain relaxation induced by He-implantation at the Si1âˆ’xGex/Si(100) interface investigated by positron annihilation. Applied Surface Science, 2002, 194, 136-139.	6.1	2
106	Modification of MeV He Implantation-Induced Cavities in Silicon by Hydrogen Plasma Treatment. Solid State Phenomena, 2003, 95-96, 307-312.	0.3	2
107	Electron Irradiation Induced Vacancy Defects Detected by Positron Annihilation in 6H-SiC. Materials Science Forum, 2005, 483-485, 473-476.	0.3	2
108	Cavities at the Si projected range by high dose and energy Si ion implantation in Si. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 153-156.	3.5	2

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109	Elaboration of Uranium Monocarbide Samples for Diffusion Studies. Defect and Diffusion Forum, 0, 323-325, 253-259.	0.4	2
110	Vacancy defects study in Fe based alloys induced by irradiation under various conditions. Journal of Physics: Conference Series, 2014, 505, 012007.	0.4	2
111	Investigation of point defects in HfO₂using positron annihilation spectroscopy: internal electric fields impact. Journal of Physics: Conference Series, 2017, 791, 012019.	0.4	2
112	Soft laser sputtering of GaAs semiconductor surfaces. European Physical Journal Special Topics, 1994, 04, C4-115-C4-118.	0.2	2
113	Proton activation analysis for the determination of trace elements in high purity ZrF4 used for the fabrication of low-loss optical fibres. Nuclear Instruments & Methods in Physics Research B, 1989, 40-41, 1202-1204.	1.4	1
114	Analysis of carbon at trace level by ion sputtering and laser resonant postionization. Nuclear Instruments & Methods in Physics Research B, 1990, 45, 580-581.	1.4	1
115	Pulsed Positron Beam Study of As-Grown Defects in Epitaxial SiC. Materials Science Forum, 2001, 363-365, 460-462.	0.3	1
116	Structural modification in electron-irradiated polyetherurethane. Applied Surface Science, 2002, 194, 195-199.	6.1	1
117	Deuterium trapping in sintered polished UO2 disks. Nuclear Instruments & Methods in Physics Research B, 2005, 240, 434-439.	1.4	1
118	Thermal evolution of vacancy defects induced in 12 MeV H+irradiated 6H-SiC single crystals. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 3650-3653.	0.8	1
119	Nature of Defects Induced by Au Implantation in Hexagonal Silicon Carbide Single Crystals. , 2009, , .		1
120	Roles of local He concentration and Si sample orientation on cavity growth in amorphous silicon. Philosophical Magazine, 2011, 91, 4324-4331.	1.6	1
121	Study of nitrogen content in HPHT diamond by nuclear reaction analysis. Nuclear Instruments & Methods in Physics Research B, 2019, 450, 315-318.	1.4	1
122	In-beam creep of SiCf/SiC minicomposites under uniaxial tensile loading. Journal of Nuclear Materials, 2020, 533, 152086.	2.7	1
123	Resonance ionization mass spectrometry applied to glass samples: study of problems associated with sputtering and with calibration. Nuclear Instruments & Methods in Physics Research B, 1991, 56-57, 893-895.	1.4	0
124	Soft laser sputtering of the GaAlAs (100) surface. Applied Surface Science, 1996, 96-98, 238-241.	6.1	0
125	Shallow traps and positron dynamics in epitaxial silicon carbide. Applied Surface Science, 2002, 194, 122-126.	6.1	0
126	Influence of Hydrogen Plasma Treatment on He Implantation-Induced Nanocavities in Silicon. Materials Research Society Symposia Proceedings, 2003, 792, 337.	0.1	0

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127	Visualization and Position Control of a Slow Positron Beam. Materials Science Forum, 2004, 445-446, 468-470.	0.3	0
128	In-Situ Raman Monitoring Of UO[sub 2]âˆ•H[sub 2]O Interfaces Under He[sup 2+] Irradiation. , 2010, , .		0
129	Thermal Desorption Gas Chromatography and Positron Annihilation Spectroscopy Contribution to Alpha Decay Studies in Actinide-Doped Matrices. IEEE Transactions on Nuclear Science, 2010, , .	2.0	0
130	Characterization of nuclear materials in extreme conditions: The raman spectroscopy approach. , 2013, , .		0
131	Development of a Positron Generator Dedicated to Materials Science Applications. Physics Procedia, 2015, 66, 506-513.	1.2	0
132	He-ion induced structural transformation of supported Ag nanoparticles. , 2016, , .		0
133	Comportement d'une interface UO2/eau sous irradiation : effets de la radiolyse de l'eau sur l'altÃ©ration de UO2. European Physical Journal Special Topics, 2001, 11, Pr1-243-Pr1-250.	0.2	0
134	MATERIAL ANALYSIS AND SURFACE INTERACTION STUDIES USING LASER RESONANT MULTIPHOTON IONIZATION. European Physical Journal Special Topics, 1991, 01, C7-685-C7-688.	0.2	0
135	Laser-Induced Reactivity of NH3 on GaAs Surface. Journal De Physique III, 1997, 7, 87-98.	0.3	0