

Marie-France Barthe

List of Publications by Year in descending order

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186265
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137
all docs

137
docs citations

137
times ranked

3491
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparative study of deuterium retention and vacancy content of self-ion irradiated tungsten. Journal of Nuclear Materials, 2022, 558, 153373.	2.7	16
2	Effect of purity on the vacancy defects induced in self-irradiated tungsten: A combination of PAS and TEM. Journal of Nuclear Materials, 2021, 556, 153175.	2.7	12
3	Experimental study of the diffusion of Xe and Kr implanted at low concentrations in UO ₂ and determination of their trapping mechanisms. Journal of Nuclear Materials, 2021, 556, 153174.	2.7	7
4	Comparative study of deuterium retention in irradiated Eurofer and Fe-Cr from a new ion implantation materials facility. Nuclear Fusion, 2020, 60, 016024.	3.5	11
5	In-beam creep of SiCf/SiC minicomposites under uniaxial tensile loading. Journal of Nuclear Materials, 2020, 533, 152086.	2.7	1
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	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
8	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
9	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
10	Quantification of irradiation-induced defects in UO ₂ using Raman and positron annihilation spectroscopies. Acta Materialia, 2019, 164, 512-519.	7.9	23
11	Dislocation loops in ultra-high purity Fe(Cr) alloys after 7.2 MeV proton irradiation. Journal of Nuclear Materials, 2018, 503, 81-90.	2.7	16
12	Three-dimensional scanning transmission electron microscopy of dislocation loops in tungsten. Micron, 2018, 113, 24-33.	2.2	29
13	Investigation of point defects in HfO ₂ using positron annihilation spectroscopy: internal electric fields impact. Journal of Physics: Conference Series, 2017, 791, 012019.	0.4	2
14	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
15	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
16	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
17	He-ion induced structural transformation of supported Ag nanoparticles. , 2016, , .		0
18	Fully self-consistent calculations of momentum distributions of annihilating electron-positron pairs in SiC. Physical Review B, 2016, 93, .	3.2	7

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19	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
20	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
21	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
22	Development of a Positron Generator Dedicated to Materials Science Applications. Physics Procedia, 2015, 66, 506-513.	1.2	0
23	Experimental location of helium atoms in 6H α -SiC crystal lattice after implantation and after annealing at 400 \AA °C. Journal of Nuclear Materials, 2015, 459, 62-69.	2.7	20
24	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
25	Helium effects on creep properties of Fe α -14CrWTi ODS steel at 650 \AA °C. Journal of Nuclear Materials, 2014, 453, 253-258.	2.7	17
26	Vacancy type defect formation in irradiated \AA -iron investigated by positron beam Doppler broadening technique. Journal of Physics: Conference Series, 2014, 505, 012018.	0.4	8
27	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
28	Quantitative ion beam analysis of M α -C α -O systems: application to an oxidized uranium carbide sample. Philosophical Magazine, 2014, 94, 1177-1191.	1.6	5
29	Helium behaviour in UO ₂ through low fluence ion implantation studies. Nuclear Instruments & Methods in Physics Research B, 2014, 327, 113-116.	1.4	6
30	Coupled experimental and DFT investigation of positron lifetimes in UO ₂ Physical Review B, 2014, 90, .	3.2	24
31	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
32	Characterization of Nuclear Materials in Extreme Conditions: Raman Spectroscopy Approach. IEEE Transactions on Nuclear Science, 2014, 61, 2045-2051.	2.0	19
33	Positron annihilation spectroscopy investigation of vacancy clusters in silicon carbide: Combining experiments and electronic structure calculations. Physical Review B, 2014, 89, .	3.2	30
34	Vacancy defects study in Fe based alloys induced by irradiation under various conditions. Journal of Physics: Conference Series, 2014, 505, 012007.	0.4	2
35	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
36	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

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37	A brief summary of the progress on the EFDA tungsten materials program. Journal of Nuclear Materials, 2013, 442, S173-S180.	2.7	69
38	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
39	Helium interaction with vacancy-type defects created in silicon carbide single crystal. Journal of Nuclear Materials, 2013, 436, 150-157.	2.7	32
40	Recent progress in research on tungsten materials for nuclear fusion applications in Europe. Journal of Nuclear Materials, 2013, 432, 482-500.	2.7	610
41	Characterization of nuclear materials in extreme conditions: The raman spectroscopy approach. , 2013, , .		0
42	Positron annihilation in latex-templated macroporous silica films: pore size and ortho-positronium escape. New Journal of Physics, 2012, 14, 065009.	2.9	36
43	Identification of the Nitrogen Split Interstitial $\langle \text{N} \rangle$ in tungsten. Physical Review Letters, 2012, 109, 206402.	7.8	38
44	A study of helium mobility in polycrystalline uranium dioxide. Journal of Nuclear Materials, 2012, 430, 156-165.	2.7	23
45	Determination of the disorder profile in an He -implanted silicon carbide single crystal by Raman spectroscopy. Journal of Raman Spectroscopy, 2012, 43, 939-944.	2.5	22
46	<i>In situ</i> 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
47	Investigation of defects in actinide-doped UO_2 by positron annihilation spectroscopy. Journal of Nuclear Materials, 2012, 420, 63-68.	2.7	14
48	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
49	Modelling radiation damage and He production in tungsten. Physica Scripta, 2011, T145, 014048.	2.5	26
50	Optimal conditions for N formation in type-1b diamond studied using photoluminescence and positron annihilation spectroscopies. Physical Review B, 2011, 84, .	3.2	48
51	Trapping and release of helium in tungsten. Journal of Nuclear Materials, 2011, 416, 13-17.	2.7	41
52	Helium desorption in 3He implanted tungsten at low energy. Journal of Nuclear Materials, 2011, 417, 504-507.	2.7	14
53	Review on the EFDA programme on tungsten materials technology and science. Journal of Nuclear Materials, 2011, 417, 463-467.	2.7	157
54	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

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55	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
56	Roles of local He concentration and Si sample orientation on cavity growth in amorphous silicon. Philosophical Magazine, 2011, 91, 4324-4331.	1.6	1
57	Helium desorption in ³ He implanted tungsten at low fluence and low energy. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 223-226.	1.4	9
58	Involvement of hydrogen-vacancy complexes in the baking effect of niobium cavities. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	22
59	Strong Coupling of a Spin Ensemble to a Superconducting Resonator. Physical Review Letters, 2010, 105, 140502.	7.8	541
60	In-Situ Raman Monitoring Of UO ₂ •H ₂ O Interfaces Under He ²⁺ Irradiation. , 2010, , .		0
61	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
62	Nature of Defects Induced by Au Implantation in Hexagonal Silicon Carbide Single Crystals. , 2009, , .		1
63	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
64	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
65	Thermal behaviour of helium in silicon carbide: Influence of microstructure. Vacuum, 2009, 83, S36-S39.	3.5	32
66	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
67	Orthopositronium annihilation and emission in mesostructured thin silica and silicalite-1 films. Applied Surface Science, 2008, 255, 187-190.	6.1	14
68	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
69	Determination of defects in 6H•SiC single crystals irradiated with 20MeV Au ions. Applied Surface Science, 2008, 255, 78-80.	6.1	9
70	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
71	Positronium reemission yield from mesostructured silica films. Applied Physics Letters, 2008, 92, .	3.3	70
72	Anomalous Evolution of Bubbles in Krypton-Implanted SiO ₂ . Materials Research Society Symposia Proceedings, 2007, 994, 1.	0.1	4

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73	Nanocavity Generation in SiO ₂ by Kr and Xe Ion Implantation. Electrochemical and Solid-State Letters, 2007, 10, G72.	2.2	5
74	Helium behavior in $\hat{1}\pm$ -SiC ceramics investigated by NRA technique. Nuclear Instruments & Methods in Physics Research B, 2007, 257, 231-235.	1.4	8
75	Thermal evolution of the vacancy defects distribution in 1MeV helium implanted sintered UO ₂ . Nuclear Instruments & Methods in Physics Research B, 2007, 261, 883-887.	1.4	19
76	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
77	Positron annihilation characteristics in UO ₂ : 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
78	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
79	Helium behaviour and vacancy defect distribution in helium implanted tungsten. Journal of Nuclear Materials, 2007, 362, 181-188.	2.7	69
80	Accurate automated non-resonant NRA depth profiling: Application to the low ³ He concentration detection in UO ₂ and SiC. Nuclear Instruments & Methods in Physics Research B, 2007, 258, 471-478.	1.4	22
81	Modifications of He implantation induced cavities in silicon by MeV silicon implantation. Applied Surface Science, 2006, 252, 3231-3236.	6.1	6
82	Thermal evolution of vacancy defects induced in sintered UO ₂ disks by helium implantation. Applied Surface Science, 2006, 252, 3262-3268.	6.1	9
83	A quantitative $\hat{1}\frac{1}{4}$ NRA study of helium intergranular and volume diffusion in sintered UO ₂ . Nuclear Instruments & Methods in Physics Research B, 2006, 249, 509-512.	1.4	14
84	Vacancy defects induced in sintered polished UO ₂ disks by helium implantation. Applied Surface Science, 2006, 252, 3256-3261.	6.1	16
85	Addition versus radiolytic production effects of hydrogen peroxide on aqueous corrosion of UO ₂ . Journal of Nuclear Materials, 2006, 348, 1-17.	2.7	56
86	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
87	Vacancy defects induced in the track region of 132MeV ¹² C irradiated SiC. Nuclear Instruments & Methods in Physics Research B, 2006, 250, 259-262.	1.4	3
88	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
89	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
90	Microstructure effects on He diffusion in sintered UO ₂ by $\hat{1}\frac{1}{4}$ NRA. Nuclear Instruments & Methods in Physics Research B, 2005, 240, 271-276.	1.4	12

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91	Deuterium trapping in sintered polished UO ₂ disks. Nuclear Instruments & Methods in Physics Research B, 2005, 240, 434-439.	1.4	1
92	Electron Irradiation Induced Vacancy Defects Detected by Positron Annihilation in 6H-SiC. Materials Science Forum, 2005, 483-485, 473-476.	0.3	2
93	Near Surface Vacancy Defects in Sintered Polished UO ₂ Disks. Materials Science Forum, 2004, 445-446, 48-50.	0.3	10
94	Visualization and Position Control of a Slow Positron Beam. Materials Science Forum, 2004, 445-446, 468-470.	0.3	0
95	Characterization of 3C-SiC Monocrystals Using Positron Annihilation Spectroscopy. Materials Science Forum, 2004, 457-460, 825-828.	0.3	5
96	He migration in implanted UO ₂ sintered disks. Journal of Nuclear Materials, 2004, 327, 88-96.	2.7	42
97	Profile measurements of helium implanted in UO ₂ sintered pellets by using the $^3\text{He}(d,\hat{I}\pm)^1\text{H}$ nuclear reaction analysis technique. Journal of Nuclear Materials, 2004, 327, 159-164.	2.7	29
98	POSITRON INTERACTION IN POLYMERS. International Journal of Modern Physics A, 2004, 19, 3951-3959.	1.5	4
99	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
100	Helium behavior in UO ₂ polycrystalline disks. Journal of Nuclear Materials, 2003, 321, 121-128.	2.7	29
101	Modification of MeV He Implantation-Induced Cavities in Silicon by Hydrogen Plasma Treatment. Solid State Phenomena, 2003, 95-96, 307-312.	0.3	2
102	Influence of Hydrogen Plasma Treatment on He Implantation-Induced Nanocavities in Silicon. Materials Research Society Symposia Proceedings, 2003, 792, 337.	0.1	0
103	Silicon vacancy-type defects in as-received and 12-MeV proton-irradiated 6H-SiC studied by positron annihilation spectroscopy. Physical Review B, 2003, 67, .	3.2	43
104	Optical transitions of the silicon vacancy in 6H-SiC studied by positron annihilation spectroscopy. Physical Review B, 2002, 66, .	3.2	36
105	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
106	Structural modification in electron-irradiated polyetherurethane. Applied Surface Science, 2002, 194, 195-199.	6.1	1
107	Improved tungsten moderator structures for slow positron beams. Applied Surface Science, 2002, 194, 16-19.	6.1	5
108	Shallow traps and positron dynamics in epitaxial silicon carbide. Applied Surface Science, 2002, 194, 122-126.	6.1	0

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109	Strain relaxation induced by He-implantation at the Si _{1-x} Ge _x /Si(100) interface investigated by positron annihilation. Applied Surface Science, 2002, 194, 136-139.	6.1	2
110	Pulsed Positron Beam Study of As-Grown Defects in Epitaxial SiC. Materials Science Forum, 2001, 363-365, 460-462.	0.3	1
111	Evidence for negatively charged vacancy defects in 6H-SiC after low-energy proton implantation. Applied Physics Letters, 2001, 78, 1234-1236.	3.3	28
112	Alpha-radiolysis effects on UO ₂ alteration in water. Journal of Nuclear Materials, 2001, 288, 11-19.	2.7	144
113	Negatively charged vacancy defects in 6H-SiC after low-energy proton implantation and annealing. Physica B: Condensed Matter, 2001, 308-310, 668-670.	2.7	4
114	Increase of the uranium release at an UO ₂ /H ₂ O interface under He ²⁺ ion beam irradiation. Nuclear Instruments & Methods in Physics Research B, 2001, 179, 225-229.	1.4	24
115	Swift Heavy Ion Irradiation Effects in SiC Measured by Positrons. Materials Science Forum, 2001, 363-365, 123-125.	0.3	11
116	Slow Positron Beam Facility in Orleans. Materials Science Forum, 2001, 363-365, 523-525.	0.3	37
117	Comportement d'une interface UO ₂ /eau sous irradiation : effets de la radiolyse de l'eau sur l'altération de UO ₂ . European Physical Journal Special Topics, 2001, 11, Pr1-243-Pr1-250.	0.2	0
118	Vacancy defects in p-type 6H-SiC created by low-energy electron irradiation. Physical Review B, 2000, 62, 10841-10846.	3.2	63
119	Positron annihilation at proton-induced defects in 6H-SiC/SiC and 6H-SiC/SiO ₂ /Si structures. Physical Review B, 2000, 62, 16638-16644.	3.2	17
120	Aging effects in polypyrrole probed by positron annihilation. Synthetic Metals, 1999, 101, 383-384.	3.9	2
121	Positron annihilation states at interfaces: evidence of divacancies. Journal of Physics Condensed Matter, 1997, 9, 10595-10601.	1.8	14
122	Laser-Induced Reactivity of NH ₃ on GaAs Surface. Journal De Physique III, 1997, 7, 87-98.	0.3	0
123	Pulsed laser sputtering of the (100)GaAlAs surface. Journal of Applied Physics, 1996, 79, 1099.	2.5	6
124	Laser induced nitridation of Ga on GaAs surfaces. Applied Surface Science, 1996, 96-98, 359-362.	6.1	3
125	Soft laser sputtering of the GaAlAs (100) surface. Applied Surface Science, 1996, 96-98, 238-241.	6.1	0
126	Soft laser sputtering of GaAs semiconductor (100) surface. Journal of Applied Physics, 1995, 78, 3411-3422.	2.5	9

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127	Soft laser sputtering of GaAs semiconductor surfaces. European Physical Journal Special Topics, 1994, 04, C4-115-C4-118.	0.2	2
128	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
129	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
130	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
131	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
132	Fast analysis of oxygen in fluoride glasses (ZBLAN) by charged-particle activation [$^{16}\text{O}(d, n)^{17}\text{F}$]. Nuclear Instruments & Methods in Physics Research B, 1990, 45, 105-106.	1.4	4
133	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
134	Proton activation analysis for the determination of trace elements in high purity ZrF ₄ used for the fabrication of low-loss optical fibres. Nuclear Instruments & Methods in Physics Research B, 1989, 40-41, 1202-1204.	1.4	1
135	Elaboration of Uranium Monocarbide Samples for Diffusion Studies. Defect and Diffusion Forum, 0, 323-325, 253-259.	0.4	2