Isabel Abril

List of Publications by Year
in descending order

124 papers	2,321 citations	218677 26 h-index	265206 42 g-index
126 all docs	126 docs citations	126 times ranked	847 citing authors

#	Article	IF	Citations
1	Dielectric description of wakes and stopping powers in solids. Physical Review A, 1998, 58, 357-366.	2.5	220
2	Calculated energy loss of swift He, Li, B, and N ions inSiO2,Al2O3, andZrO2. Physical Review A, 2005, 72, .	2.5	91
3	Semiempirical Model for the Ion Impact Ionization of Complex Biological Media. Physical Review Letters, 2013, 110, 148104.	7.8	72
4	A dielectric response study of the electronic stopping power of liquid water for energetic protons and a new<i>I</i>-value for water. Physics in Medicine and Biology, 2009, 54, 3451-3472.	3.0	67
5	Inelastic scattering and energy loss of swift electron beams in biologically relevant materials. Surface and Interface Analysis, 2017, 49, 11-17.	1.8	58
6	Energy Loss of Hydrogen- and Helium-Ion Beams in DNA: Calculations Based on a Realistic Energy-Loss Function of the Target. Radiation Research, 2011, 175, 247-255.	1.5	56
7	Inelastic mean free path of lowâ€energy electrons in condensed media: beyond the standard models. Surface and Interface Analysis, 2017, 49, 4-10.	1.8	54
8	Wavenumber dependence of the energy loss function of graphite and aluminium. Journal of Electron Spectroscopy and Related Phenomena, 1996, 82, 23-29.	1.7	53
9	Energy distributions of particles striking the cathode in a glow discharge. Physical Review A, 1983, 28, 3677-3678.	2.5	52
10	Inelastic Cross Sections for Low-Energy Electrons in Liquid Water: Exchange and Correlation Effects. Radiation Research, 2013, 180, 499-513.	1.5	52
11	Influence of the description of the target energyâ€loss function on the energy loss of swift projectiles. Surface and Interface Analysis, 2008, 40, 1481-1487.	1.8	48
12	Calculated depth-dose distributions for H+ and He+ beams in liquid water. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2647-2652.	1.4	47
13	Inelastic scattering of electron and light ion beams in organic polymers. Journal of Applied Physics, 2011, 109, 094901.	2.5	47
14	Electron inelastic mean free paths in biological matter based on dielectric theory and local-field corrections. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 45-52.	1.4	46
15	A combined molecular dynamics and Monte Carlo simulation of the spatial distribution of energy deposition by proton beams in liquid water. Physics in Medicine and Biology, 2011, 56, 6475-6493.	3.0	44
16	Inelastic scattering of low-energy electrons in liquid water computed from optical-data models of the Bethe surface. International Journal of Radiation Biology, 2012, 88, 22-28.	1.8	44
17	Stopping power of large homonuclear clusters: Influence of cluster structure. Physical Review A, 1992, 46, 5745-5753.	2.5	41
18	Angular and Energy Distributions of Electrons Produced in Arbitrary Biomaterials by Proton Impact. Physical Review Letters, 2015, 114, 018101.	7.8	37

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19	The contribution of fast neutrals to cathode erosion in glow discharges. Journal Physics D: Applied Physics, 1984, 17, 1841-1849.	2.8	34
20	Allotropic effects on the energy loss of swift H+ and He+ ion beams through thin foils. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 6-12.	1.4	34
21	Proton energy loss in allotropic forms of carbon. Nuclear Instruments & Methods in Physics Research B, 1994, 90, 72-75.	1.4	32
22	The effect of static many-body local-field corrections to inelastic electron scattering in condensed media. Journal of Applied Physics, 2013, 114, .	2.5	32
23	Effect of the Bethe surface description on the electronic excitations induced by energetic proton beams in liquid water and DNA. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 1763-1767.	1.4	30
24	Semi-empirical dielectric descriptions of the Bethe surface of the valence bands of condensed water. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 1154-1161.	1.4	29
25	Energy transfer processes in glow discharges. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1986, 4, 1773-1778.	2.1	28
26	Energy loss of H+ and He+ in the semiconductors GaAs, ZnSe, InP and SiC. Nuclear Instruments & Methods in Physics Research B, 2005, 230, 118-124.	1.4	27
27	Calculation of energy-loss straggling of C, Al, Si, and Cu for fast H, He, and Li ions. Physical Review A, 2007, 75, .	2.5	26
28	Energy loss of proton,<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>particle, and electron beams in hafnium dioxide films. Physical Review A, 2009, 80, .	2.5	24
29	Simple model of bulk and surface excitation effects to inelastic scattering in low-energy electron beam irradiation of multi-walled carbon nanotubes. Journal of Applied Physics, 2011, 110, 054304.	2.5	24
30	Energy-loss and exit-angle distributions of fragmentedH2+ions after traversing carbon foils. Physical Review A, 2000, 62, .	2.5	23
31	Electronic energy loss of swift protons in the oxides Al2O3, SiO2 and ZrO2. Nuclear Instruments & Methods in Physics Research B, 2002, 190, 89-94.	1.4	23
32	Inelastic Collisions of Energetic Protons in Biological Media. Advances in Quantum Chemistry, 2013, 65, 129-164.	0.8	23
33	Energy loss of swift H 3 + -molecule ions in carbon foils. Europhysics Letters, 1996, 35, 499-504.	2.0	21
34	Stopping power calculation of rubidium and strontium for protons. Nuclear Instruments & Methods in Physics Research B, 2002, 193, 30-35.	1.4	21
35	Energy-loss calculation of swiftCn+(n=2â€“60)clusters through thin foils. Physical Review A, 2007, 76, .	2.5	21
36	Ionization of biomolecular targets by ion impact: input data for radiobiological applications. Journal of Physics: Conference Series, 2013, 438, 012015.	0.4	21

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37	Large hydrogen cluster stopping in carbon. Nuclear Instruments & Methods in Physics Research B, 1992, 67, 56-61.	1.4	20
38	Coulomb-explosion imaging ofCH2+: Target-polarization effects and bond-angle distribution. Physical Review A, 2004, 69, .	2.5	20
39	Electronic energy loss of swift H+ and He+ ions in solids with material science applications. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 29-33.	1.4	20
40	Energy deposition around swift proton tracks in polymethylmethacrylate: How much and how far. Physical Review B, 2017, 96, .	3.2	20
41	The influence of pressure on the operation of glow-discharge sputtering systems. Vacuum, 1987, 37, 391-394.	3.5	19
42	Collisional atomic mixing in polyatomic targets. Physical Review B, 1991, 44, 2061-2070.	3.2	19
43	Energy Spectra of Protons and Generated Secondary Electrons around the Bragg Peak in Materials of Interest in Proton Therapy. Radiation Research, 2018, 190, 282.	1.5	19
44	Modelling of glow discharge sputtering systems: Theory of the cathode fall region. Thin Solid Films, 1985, 124, 59-65.	1.8	17
45	Alacant: Modeling of glow discharge sputtering systems. Computer Physics Communications, 1988, 51, 413-422.	7.5	17
46	Energy loss of swift H and He projectiles in Al, Si, Ni and Cu targets. Physica Status Solidi (B): Basic Research, 2008, 245, 1498-1504.	1.5	16
47	Water equivalent properties of materials commonly used in proton dosimetry. Applied Radiation and Isotopes, 2014, 83, 122-127.	1.5	16
48	Multiscale simulation of the focused electron beam induced deposition process. Scientific Reports, 2020, 10, 20827.	3.3	16
49	Relative Role of Physical Mechanisms on Complex Biodamage Induced by Carbon Irradiation. Journal of Physical Chemistry Letters, 2021, 12, 487-493.	4.6	15
50	Target inner-shells contributions to the stopping power and straggling for H and He ions in gold. Journal of Physics Condensed Matter, 2007, 19, 466205.	1.8	14
51	Electron inelastic mean free paths for carbon nanotubes from optical data. Applied Physics Letters, 2009, 94, 263113.	3.3	14
52	Analytic expressions for the inelastic scattering and energy loss of electron and proton beams in carbon nanotubes. Journal of Applied Physics, 2010, 108, .	2.5	14
53	Facet development and its influence on depth resolution during sputtering of Si. Surface and Interface Analysis, 1985, 7, 41-48.	1.8	13
54	Energy loss of swiftH2+andH3+molecules in gold: Vicinage effects. Physical Review B, 2011, 83, .	3.2	13

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55	Simulation of the secondary electrons energy deposition produced by proton beams in PMMA: influence of the target electronic excitation description. European Physical Journal D, 2015, 69, 1.	1.3	13
56	Collective effects in the energy loss of large hydrogen clusters. Physical Review A, 1996, 54, 4145-4152.	2.5	12
57	Calculations on vicinage effects in the energy loss of fast (n=2,3,4) molecules in carbon foils. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 296-301.	1.4	12
58	Exit angle, energy loss and internuclear distance distributions of H2+ ions dissociated when traversing different materials. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 310-317.	1.4	12
59	Effect of the neutral charge fraction in the Coulomb explosion of H2+ ions through aluminum foils. Nuclear Instruments & Methods in Physics Research B, 2002, 193, 198-203.	1.4	12
60	Excitation and ionisation cross-sections in condensed-phase biomaterials by electrons down to very low energy: application to liquid water and genetic building blocks. Physical Chemistry Chemical Physics, 2021, 23, 5079-5095.	2.8	12
61	Resonant effects in the stopping power of clusters. Nuclear Instruments & Methods in Physics Research B, 1996, 115, 18-22.	1.4	11
62	Molecular structure effects in the energy loss of swift boron molecular ions in solids. Journal of Physics Condensed Matter, 2000, 12, 5519-5526.	1.8	11
63	Comments on recent measurements of the stopping power of liquid water. Nuclear Instruments & Methods in Physics Research B, 2013, 299, 51-53.	1.4	11
64	A study of the energy deposition profile of proton beams in materials of hadron therapeutic interest. Applied Radiation and Isotopes, 2014, 83, 109-114.	1.5	11
65	Energy Loss of Swift Protons in Liquid Water: Role of Optical Data Input and Extension Algorithms. Biological and Medical Physics Series, 2012, , 239-261.	0.4	11
66	Sputter depth profile analysis of marker layers. Surface and Interface Analysis, 1990, 15, 463-465.	1.8	10
67	Stopping cross sections of TiO2 for H and He ions. European Physical Journal D, 2014, 68, 1.	1.3	10
68	Electronic excitation spectra of cerium oxides: from <i>ab initio</i> dielectric response functions to Monte Carlo electron transport simulations. Physical Chemistry Chemical Physics, 2021, 23, 19173-19187.	2.8	10
69	Electronic interactions and nuclear scattering effects in the stopping power of carbon for fragmented H2+ projectiles. Nuclear Instruments & Methods in Physics Research B, 1998, 135, 50-55.	1.4	9
70	Electronic Stopping Power of Amorphous Carbon for H2+ and H3+ Beams. Physica Status Solidi (B): Basic Research, 2000, 219, 23-30.	1.5	9
71	Comment on â€œCoulomb Explosion Patterns of FastC60Clusters in Solidsâ€• Physical Review Letters, 2002, 88, 079601.	7.8	9
72	Experimental and theoretical studies of the energy-loss straggling of H and He ion beams in HfO2 films. European Physical Journal D, 2009, 54, 65-70.	1.3	9

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73	Experimental and theoretical determination of the stopping power of ZrO2 films for protons and Î±-particles. European Physical Journal D, 2010, 59, 209-213.	1.3	9
74	Energy loss of protons in carbon nanotubes: Experiments and calculations. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 1781-1785.	1.4	9
75	Energy deposition of H and He ion beams in hydroxyapatite films: A study with implications for ion-beam cancer therapy. Physical Review E, 2014, 89, 022703.	2.1	9
76	â€œSecondary electron spectra of semi-crystalline polymers â€“ A novel polymer characterisation tool?â€. Journal of Electron Spectroscopy and Related Phenomena, 2018, 222, 95-105.	1.7	9
77	Role of the interaction processes in the depth-dose distribution of proton beams in liquid water. Journal of Physics: Conference Series, 2012, 373, 012015.	0.4	8
78	Energy loss distribution of proton beams at normal incidence on multi-walled carbon nanotubes. Carbon, 2013, 52, 137-144.	10.3	8
79	Energy Loss Function of Solids Assessed by Ion Beam Energy-Loss Measurements: Practical Application to Ta₂O₅. Journal of Physical Chemistry C, 2015, 119, 20561-20570.	3.1	8
80	Atomic mixing of multi-component materials: the dilute limit. Vacuum, 1989, 39, 695-699.	3.5	7
81	Fluence dependent mixing of isotopic targets: a theoretical case study. Nuclear Instruments & Methods in Physics Research B, 1992, 67, 527-530.	1.4	7
82	Energy loss of fragment protons dissociated from 0.2- and 0.5-MeV/amuH2+ions incident in carbon foils. Physical Review A, 2000, 62, .	2.5	7
83	Calculation of the energy loss of swift H and He ions in Ag using the dielectric formalism: The role of inner-shell ionization. Nuclear Instruments & Methods in Physics Research B, 2007, 256, 172-176.	1.4	7
84	Energy-loss straggling study of proton and alpha-particle beams incident onto ZrO2 and Al2O2 films. European Physical Journal D, 2011, 64, 297-301.	1.3	7
85	Quasi first-principles Monte Carlo modeling of energy dissipation by low-energy electron beams in multi-walled carbon nanotube materials. Applied Physics Letters, 2012, 100, .	3.3	7
86	Analytical model of ionization and energy deposition by proton beams in subcellular compartments. European Physical Journal D, 2014, 68, 1.	1.3	7
87	Energy Deposition around Swift Carbon-Ion Tracks in Liquid Water. International Journal of Molecular Sciences, 2022, 23, 6121.	4.1	7
88	Transport-theoretical studies of static and dynamic recoil mixing. Nuclear Instruments & Methods in Physics Research B, 1991, 55, 681-685.	1.4	6
89	Role of electronic excitations in the energy loss ofH2+projectiles in high-Îºmaterials. Physical Review B, 2009, 80, .	3.2	6
90	Lateral spread of dose distribution by therapeutic proton beams in liquid water. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 176-180.	1.4	6

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91	Collisional mixing in ion beam desorption of impurity monolayers. Nuclear Instruments & Methods in Physics Research B, 1990, 48, 589-592.	1.4	5
92	Bulk atomic relocation in low-energy collision cascades in silicon: Molecular Dynamics versus Monte Carlo simulations. Nuclear Instruments & Methods in Physics Research B, 1994, 90, 363-368.	1.4	5
93	Velocity and orientational dependence of h₃⁺energy loss. Radiation Effects and Defects in Solids, 1997, 142, 223-234.	1.2	5
94	Dynamical interaction effects on an electric dipole moving parallel to a flat solid surface. Physical Review A, 2005, 71, .	2.5	5
95	Proton Beam Irradiation of Liquid Water: A Combined Molecular Dynamics and Monte Carlo Simulation Study of the Bragg Peak Profile. Interdisciplinary Research on Particle Collisions and Quantitative Spectroscopy, 2012, , 271-304.	0.5	5
96	Barkas effect in the stopping power for ions with different ionization degrees. Nuclear Instruments & Methods in Physics Research B, 2013, 316, 88-93.	1.4	5
97	Energy spectra of reflected and sputtered particles in magnetron deposition systems. Vacuum, 1994, 45, 1135-1137.	3.5	4
98	Vicinage effects in the stopping power of H $_3^+$ beams in amorphous carbon. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1997, 41, 187-193.	1.0	4
99	Contribution of nuclear scattering to the energy loss distribution of protons in carbon foils. Nuclear Instruments & Methods in Physics Research B, 1998, 135, 45-49.	1.4	4
100	Wake effects in the evolution of fast molecular ions through thin foils. Nuclear Instruments & Methods in Physics Research B, 2005, 230, 41-45.	1.4	4
101	Electrostatic Deformation of Liquid Surfaces by a Charged Rod and a Van de Graaff Generator. Physics Teacher, 2014, 52, 266-268.	0.3	4
102	Proton energy loss in multilayer graphene and carbon nanotubes. Radiation Effects and Defects in Solids, 2018, 173, 93-101.	1.2	4
103	Simulation of the energy spectra of swift light ion beams after traversing cylindrical targets: a consistent interpretation of experimental data relevant for hadron therapy. European Physical Journal D, 2019, 73, 1.	1.3	4
104	Laser effects on proton energy loss in metals. Nuclear Instruments & Methods in Physics Research B, 1992, 67, 17-21.	1.4	3
105	The effect of parameter choice on predicted depth resolution in sputter profiling. Nuclear Instruments & Methods in Physics Research B, 1992, 67, 486-490.	1.4	3
106	Phosphorus doping of silicon by proton induced nuclear reactions. Applied Physics Letters, 1995, 66, 3036-3038.	3.3	3
107	Radial profile of energetic particles bombarding the substrate in a glow discharge. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 528-534.	2.1	3
108	Simulation of swift boron clusters traversing amorphous carbon foils. Physical Review A, 2007, 75, .	2.5	3

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109	Alignment effects in the interaction of <mml:math altimg="si2.gif" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsev. Nuclear I	1.4	3
110	Electronic stopping cross sections for protons in Al2O3: an experimental and theoretical study. European Physical Journal D, 2012, 66, 1.	1.3	3
111	Simple Estimates of Recoil Implantation Quantities. Physica Status Solidi A, 1986, 96, 161-166.	1.7	2
112	The effects of model parameter variations on high-fluence ion implantation. Vacuum, 1993, 44, 783-789.	3.5	2
113	Propagation of Swift Protons in Liquid Water and Generation of Secondary Electrons in Biomaterials. , 2017, , 61-98.		2
114	Spatial and energy distributions of the fragments resulting from the dissociation of swift molecular ions in solids. Nuclear Instruments & Methods in Physics Research B, 2002, 190, 131-135.	1.4	1
115	Calculated energy loss of a swift fullerene ion beam in InP. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 872-875.	1.4	1
116	Energy deposition around swift proton and carbon ion tracks in biomaterials. Journal of Physics: Conference Series, 2017, 875, 112006.	0.4	1
117	Energy loss of H+ and H2+ beams in carbon nanotubes: a joint experimental and simulation study. European Physical Journal D, 2019, 73, 1.	1.3	1
118	Problems encountered in calculations of collisional mixing in compounds. Journal of Physics Condensed Matter, 1993, 5, A303-A304.	1.8	0
119	Depth profiling of isotopic markers. Vacuum, 1994, 45, 1123-1124.	3.5	0
120	Depth resolution in depth profiling of marker layers by energetic ion bombardment. Nuclear Instruments & Methods in Physics Research B, 1995, 95, 91-96.	1.4	0
121	Doping of Silicon with Phosphorus Using the30Si(p, Î³)31P Resonant Nuclear Reaction. Physica Status Solidi A, 1999, 176, 867-875.	1.7	0
122	Phosphorus concentration profile in silicon produced by means of the nuclear reaction. Vacuum, 2000, 57, 81-85.	3.5	0
123	Inverse mean free path of swift electrons in metals irradiated by a strong laser field. Laser and Particle Beams, 2003, 21, 91-96.	1.0	0
124	Simulation of the energy loss of proton beams interacting with few layer graphene foils. Journal of Physics: Conference Series, 2017, 875, 112007.	0.4	0