

Pedro Luis Grande

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7275871/publications.pdf>

Version: 2024-02-01

181
papers

3,355
citations

147726

31
h-index

214721

47
g-index

183
all docs

183
docs citations

183
times ranked

1591
citing authors

#	ARTICLE	IF	CITATIONS
1	Improved charge-state formulas. Nuclear Instruments & Methods in Physics Research B, 2001, 175-177, 125-131.	0.6	241
2	Impact-parameter dependence of the electronic energy loss of fast ions. Physical Review A, 1998, 58, 3796-3801.	1.0	114
3	A unitary convolution approximation for the impact-parameter dependent electronic energy loss. Nuclear Instruments & Methods in Physics Research B, 1999, 153, 1-9.	0.6	92
4	The unitary convolution approximation for heavy ions. Nuclear Instruments & Methods in Physics Research B, 2002, 195, 55-63.	0.6	74
5	Influence of nuclear track potentials in insulators on the emission of target Auger electrons. Physical Review Letters, 1992, 69, 628-631.	2.9	72
6	Nonperturbative stopping-power calculation for bare and neutral hydrogen incident on He. Physical Review A, 1993, 47, 1119-1122.	1.0	66
7	Comprehensive analysis of the stopping power of antiprotons and negative muons in He and gas targets. Journal of Physics B: Atomic, Molecular and Optical Physics, 1996, 29, 307-321.	0.6	65
8	Energy dissipation of fast heavy ions in matter. Nuclear Instruments & Methods in Physics Research B, 2001, 175-177, 1-11.	0.6	61
9	Convolution approximation for the energy loss, ionization probability and straggling of fast ions. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 859-865.	0.6	60
10	Range parameters study of medium-heavy ions implanted into light substrates. Nuclear Instruments & Methods in Physics Research B, 1991, 61, 282-290.	0.6	59
11	Impact-parameter dependence of electronic energy loss and straggling of incident bare ions on H and He atoms by using the coupled-channel method. Physical Review A, 1991, 44, 2984-2992.	1.0	58
12	Impact-parameter dependent energy loss of screened ions. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 203-211.	0.6	57
13	Characterization of nanoparticles through medium-energy ion scattering. Journal of Applied Physics, 2009, 106, .	1.1	51
14	Electronic stopping of protons at intermediate velocities. Nuclear Instruments & Methods in Physics Research B, 1992, 69, 10-17.	0.6	49
15	Indications of Nuclear-Track-Guided Electrons Induced by Fast Heavy Ions in Insulators. Physical Review Letters, 1997, 79, 1821-1824.	2.9	48
16	Ranges in Si and lighter mono and multi-element targets. Materials Science and Engineering Reports, 1995, 15, 1-83.	14.8	47
17	Introducing electron capture into the unitary-convolution-approximation energy-loss theory at low velocities. Physical Review A, 2011, 84, .	1.0	47
18	Electronic stopping power of $\sim 100\%$ axial-channelled He ions in Si crystals. Nuclear Instruments & Methods in Physics Research B, 1995, 106, 51-54.	0.6	46

#	ARTICLE	IF	CITATIONS
19	Ion implantation in In^{2+} -Ga ₂ O ₃ : Physics and technology. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	0.9	45
20	Energy loss of argon in a laser-generated carbon plasma. Physical Review E, 2010, 81, 026401.	0.8	40
21	An analytical energy-loss line shape for high depth resolution in ion-beam analysis. Nuclear Instruments & Methods in Physics Research B, 2007, 256, 92-96.	0.6	38
22	Angular dependence of energy loss in proton-helium collisions. Physical Review Letters, 1994, 72, 2159-2162.	2.9	36
23	Determination of the electron temperature in the thermal spike of amorphous carbon. Europhysics Letters, 1999, 47, 384-390.	0.7	36
24	Giant Barkas Effect Observed for Light Ions Channeling in Si. Physical Review Letters, 2001, 86, 1482-1485.	2.9	34
25	Femtosecond dynamics "snapshots" of the early ion-track evolution. Nuclear Instruments & Methods in Physics Research B, 2004, 225, 4-26.	0.6	34
26	Range and thermal-behavior studies of Au and Bi implanted into photoresist films. Physical Review B, 1990, 41, 6145-6153.	1.1	33
27	Angular dependence of the electronic energy loss of 800-keV He ions along the $\text{Si} \sim 100^\circ$ direction. Physical Review B, 1997, 55, 4332-4342.	1.1	33
28	Auger electrons from ion tracks. Nuclear Instruments & Methods in Physics Research B, 2000, 164-165, 353-364.	0.6	33
29	Range profiles of medium and heavy ions implanted into SiO ₂ . Nuclear Instruments & Methods in Physics Research B, 1988, 35, 17-20.	0.6	32
30	Direct Evidence for Projectile Charge-State Dependent Crater Formation Due to Fast Ions. Physical Review Letters, 2008, 101, 167601.	2.9	32
31	Nonperturbative treatment of the screened-Coulomb contribution of projectile-electron loss. Physical Review A, 1996, 54, 2983-2990.	1.0	31
32	Controlled rotation of the exchange-bias direction in IrMn/Cu/Co via ion irradiation. Applied Physics Letters, 2008, 93, .	1.5	31
33	Confinement Effects of Ion Tracks in Ultrathin Polymer Films. Physical Review Letters, 2015, 114, 118302.	2.9	30
34	Damage of ion irradiated C ₆₀ films. Nuclear Instruments & Methods in Physics Research B, 1999, 149, 336-342.	0.6	29
35	Unraveling energy loss processes of low energy heavy ions in 2D materials. Communications Physics, 2019, 2, .	2.0	28
36	An experimental determination of electron temperatures in the center of nuclear tracks in amorphous carbon. Nuclear Instruments & Methods in Physics Research B, 1998, 146, 131-136.	0.6	27

#	ARTICLE	IF	CITATIONS
37	Limitations to depth resolution in ion scattering experiments. Nuclear Instruments & Methods in Physics Research B, 2001, 183, 16-24.	0.6	26
38	Ionization and Energy Loss Beyond Perturbation Theory. Advances in Quantum Chemistry, 2004, 45, 7-46.	0.4	26
39	Projected ranges and range stragglings of Au and Bi implanted into carbon films and into SiO ₂ . Nuclear Instruments & Methods in Physics Research B, 1987, 19-20, 25-27.	0.6	25
40	Energy loss of slow ions: one-band calculation for alkaline metals. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 163, 439-446.	0.9	25
41	Oxygen Self-Diffusion in HfO_2 by Electron Spectroscopy. Physical Review Letters, 2014, 112, 175901.	2.5	25
42	Range parameters of heavy ions implanted into C films. Nuclear Instruments & Methods in Physics Research B, 1988, 33, 122-124.	0.6	24
43	Stopping of protons – Improved accuracy of the UCA model. Nuclear Instruments & Methods in Physics Research B, 2012, 273, 1-5.	0.6	23
44	Quantitative Compositional Profiling of Conjugated Quantum Dots with Single Atomic Layer Depth Resolution via Time-of-Flight Medium-Energy Ion Scattering Spectroscopy. Analytical Chemistry, 2014, 86, 1091-1097.	3.2	23
45	Oxygen diffusion in TiO ₂ films studied by electron and ion Rutherford backscattering. Thin Solid Films, 2017, 629, 97-102.	0.8	23
46	Range parameters of heavy ions implanted into Be films. Nuclear Instruments & Methods in Physics Research B, 1990, 45, 689-692.	0.6	22
47	On classical calculations of the electronic stopping power at intermediate energies. Journal of Physics B: Atomic, Molecular and Optical Physics, 1995, 28, 425-433.	0.6	22
48	Coupled-channel calculations of the electronic energy loss. Nuclear Instruments & Methods in Physics Research B, 1997, 132, 264-275.	0.6	22
49	Electronic stopping based on atomic and solid-state wavefunctions. Radiation Effects and Defects in Solids, 1994, null, 137-156.	0.4	21
50	Random and channeling stopping powers of He and Li ions in Si. Physical Review B, 2002, 65, .	1.1	21
51	Ion tracks – quasi one-dimensional nano-structures. Applied Surface Science, 2001, 182, 286-292.	3.1	19
52	Signature of plasmon excitations in the stopping ratio of fast hydrogen clusters. Physical Review B, 2008, 77, .	1.1	19
53	Charge-state related effects in sputtering of LiF by swift heavy ions. Nuclear Instruments & Methods in Physics Research B, 2017, 392, 94-101.	0.6	19
54	Ion irradiation effects on the exchange bias in IrMn/Co films. Journal of Applied Physics, 2011, 109, .	1.1	18

#	ARTICLE	IF	CITATIONS
55	Range parameters study of Pb and Au implanted into SiC films. Nuclear Instruments & Methods in Physics Research B, 1992, 64, 668-671.	0.6	17
56	Alternative treatment for the energy-transfer and transport cross section in dressed electron-ion binary collisions. Physical Review A, 2016, 94, .	1.0	17
57	Simple model dielectric functions for insulators. Journal of Physics and Chemistry of Solids, 2017, 104, 192-197.	1.9	17
58	Very large sputtering yields of ion irradiated C60 films. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 226, 217-222.	0.9	16
59	Improved calculations of the electronic energy loss under channeling conditions. Nuclear Instruments & Methods in Physics Research B, 1998, 136-138, 125-131.	0.6	16
60	Si-Auger electrons from the center of nuclear tracks. Nuclear Instruments & Methods in Physics Research B, 2002, 193, 705-712.	0.6	16
61	Experimental energy straggling of protons in SiO ₂ . Physical Review A, 2003, 68, .	1.0	16
62	Advanced ion energy loss models: Applications to subnanometric resolution elemental depth profiling. Surface Science, 2007, 601, 5559-5570.	0.8	16
63	Asymmetric line shapes for medium energy H and He ions undergoing a large-angle collision. Physical Review B, 2008, 78, .	1.1	16
64	Stopping cross section of vanadium for H + and He + ions in a large energy interval deduced from backscattering spectra. Nuclear Instruments & Methods in Physics Research B, 2018, 424, 43-51.	0.6	16
65	Range parameters of heavy ions implanted into boron films. Nuclear Instruments & Methods in Physics Research B, 1991, 59-60, 1-4.	0.6	15
66	Electronic stopping power of B ¹⁰ in Si in random and ~100% channeling directions. Physical Review B, 1997, 55, 13651-13657.	1.1	15
67	Structural characterization of CdSe/ZnS quantum dots using medium energy ion scattering. Applied Physics Letters, 2012, 101, .	1.5	15
68	The use of electron Rutherford backscattering to characterize novel electronic materials as illustrated by a case study of sputter-deposited NbO _x films. Nuclear Instruments & Methods in Physics Research B, 2014, 340, 58-62.	0.6	15
69	Vanishing influence of the band gap on the charge exchange of slow highly charged ions in freestanding single-layer MoS_2 . Physical Review B, 2020, 102, .	1.1	15
70	Coulomb heating of channeled H ₂ and H ₃ molecules in Si. Physical Review B, 2004, 69, .	1.1	14
71	Direct Observation and Theory of Trajectory-Dependent Electronic Energy Losses in Medium-Energy Ion Scattering. Physical Review Letters, 2009, 102, 096103.	2.9	14
72	The relation between the electron energy loss spectra of hafnia and its dielectric function. Surface Science, 2014, 630, 1-8.	0.8	14

#	ARTICLE	IF	CITATIONS
73	Unraveling structural and compositional information in 3D FinFET electronic devices. Scientific Reports, 2019, 9, 11629.	1.6	14
74	On the treatment of light-ion electronic stopping in dense matter. Nuclear Instruments & Methods in Physics Research B, 1994, 90, 10-19.	0.6	13
75	Nonperturbative treatment of medium-energy proton scattering under shadowing-blocking conditions in Al(110). Physical Review B, 2004, 69, .	1.1	13
76	Contribution of close collisions to the Barkas effect: The classical picture. Physical Review A, 2004, 70, .	1.0	13
77	Non-equilibrium emission of secondary ions from BeO films sputtered by swift gold ions. Nuclear Instruments & Methods in Physics Research B, 2004, 225, 72-77.	0.6	13
78	Energy loss of helium ions in zinc. Physical Review A, 2004, 69, .	1.0	13
79	Energy loss of swift H ₂ ⁺ and H ₃ ⁺ molecules in gold: Vicinage effects. Physical Review B, 2011, 83, .	1.1	13
80	A high-energy electron scattering study of the electronic structure and elemental composition of O-implanted Ta films used for the fabrication of memristor devices. Journal of Applied Physics, 2013, 114, 073508.	1.1	13
81	Peeling graphite layer by layer reveals the charge exchange dynamics of ions inside a solid. Communications Physics, 2021, 4, .	2.0	13
82	Damage and sputtering of fullerene by low energy medium and heavy ions. Nuclear Instruments & Methods in Physics Research B, 1996, 113, 244-247.	0.6	12
83	Angular dependent energy loss of 0.8–2.0 MeV He ions channeled along the Si [100] direction. Nuclear Instruments & Methods in Physics Research B, 1998, 136-138, 132-136.	0.6	12
84	Electronic energy loss of H ₃ ⁺ ion clusters in SiO ₂ films. Physical Review A, 2001, 64, .	1.0	12
85	Random stopping power and energy straggling of ions into amorphous Si target. Nuclear Instruments & Methods in Physics Research B, 2002, 190, 79-83.	0.6	12
86	Electronic energy-density effects in ion tracks of metals. Nuclear Instruments & Methods in Physics Research B, 2005, 230, 426-430.	0.6	12
87	Structural control of gold nanoparticles self-assemblies by layer-by-layer process. Nanoscale, 2011, 3, 1717.	2.8	12
88	Antiparallel interface coupling evidenced by negative rotatable anisotropy in IrMn/NiFe bilayers. Journal of Applied Physics, 2015, 117, .	1.1	12
89	Vicinage effect in the energy loss of H ₂ dimers: Experiment and calculations based on time-dependent density-functional theory. Physical Review A, 2017, 95, .	1.0	12
90	Ground- and excited-state scattering potentials for the stopping of protons in an electron gas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 185201.	0.6	12

#	ARTICLE	IF	CITATIONS
91	Nonlinear stopping effects of slow ions in a no-free-electron system: Titanium nitride. <i>Physical Review A</i> , 2019, 100, .	1.0	12
92	Energy loss in medium-energy ion scattering: A combined theoretical and experimental study of the model system Y on Si(111). <i>Physical Review B</i> , 2005, 72, .	1.1	11
93	Evidence for an Ultrafast Breakdown of the BeO Band Structure Due to Swift Argon and Xenon Ions. <i>Physical Review Letters</i> , 2010, 105, 187603.	2.9	11
94	Structural characterization of Pb nanoislands in SiO ₂ /Si interface synthesized by ion implantation through MEIS analysis. <i>Surface Science</i> , 2011, 605, 654-658.	0.8	11
95	Iron-based bimagnetic core/shell nanostructures in SiO ₂ : a TEM, MEIS, and energy-resolved XPS analysis. <i>Journal of Nanoparticle Research</i> , 2012, 14, 1.	0.8	11
96	Determination of thickness and composition of high-k dielectrics using high-energy electrons. <i>Applied Physics Letters</i> , 2013, 103, 071911.	1.5	11
97	How the choice of model dielectric function affects the calculated observables. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2017, 407, 97-109.	0.6	11
98	Stopping power of cluster ions in a free-electron gas from partial-wave analysis. <i>Physical Review A</i> , 2018, 98, .	1.0	11
99	On the Experimental Investigation of Ion Beam Mixing in Thin Film Bilayers, Study of the Fe-Al Case. <i>Physica Status Solidi A</i> , 1992, 129, 453-465.	1.7	10
100	Dominant two-center electron-electron interactions in collisions of 120-MeVNe ⁶⁺ ions with gas targets. <i>Physical Review A</i> , 1995, 52, 387-391.	1.0	10
101	Search for short-time phase effects in the electronic damage evolution “ A case study with silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2008, 266, 1287-1293.	0.6	10
102	Exploring the Barkas effect with keV-electron scattering. <i>Physical Review A</i> , 2013, 88, .	1.0	10
103	Extracting the dielectric function from high-energy REELS measurements. <i>Surface and Interface Analysis</i> , 2017, 49, 809-821.	0.8	10
104	Stopping and straggling of 60-250-keV backscattered protons on nanometric Pt films. <i>Physical Review A</i> , 2020, 102, .	1.0	10
105	Diffusion of Hf in γ -Zr. <i>Applied Physics A: Solids and Surfaces</i> , 1990, 51, 29-33.	1.4	9
106	Electronic stopping power of axial channeled Li ions in Si crystals. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1999, 148, 164-167.	0.6	9
107	Electronic energy loss of channeled ions: The giant Barkas effect. <i>Physical Review A</i> , 2004, 70, .	1.0	9
108	Analytical energy loss distribution for accurate high resolution depth profiling using medium energy ion scattering. <i>Applied Physics Letters</i> , 2008, 92, 164102.	1.5	9

#	ARTICLE	IF	CITATIONS
109	Experimental and theoretical studies of the energy-loss straggling of H and He ion beams in HfO ₂ films. <i>European Physical Journal D</i> , 2009, 54, 65-70.	0.6	9
110	Cluster ion emission from LiF induced by MeV Nq ⁺ projectiles and ²⁵² Cf fission fragments. <i>European Physical Journal D</i> , 2011, 63, 391-400.	0.6	9
111	Determination of film thicknesses through the breakup of H ₂ ⁺ ions. <i>Surface Science</i> , 2013, 608, 292-296.	0.8	9
112	Morphological and compositional characteristics of bimetallic core@shell nanoparticles revealed by MEIS. <i>Applied Surface Science</i> , 2015, 330, 164-171.	3.1	9
113	Unveiling the Inner Structure of PtPd Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2017, 121, 19461-19466.	1.5	9
114	Modelling the contribution of semi-core electrons to the dielectric function. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 124, 242-249.	1.9	9
115	Range parameters of Au and Cs implanted into BN and SiC films. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1993, 80-81, 53-57.	0.6	8
116	Angular dependence for the energy loss of channeled He ions near the Si and directions. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2001, 174, 407-413.	0.6	8
117	High-energy electron scattering from TiO ₂ surfaces. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015, 354, 332-339.	0.6	8
118	High energy Li implanted profiles in silicon. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1989, 39, 22-25.	0.6	7
119	Stopping mechanisms of negative heavy particles in gas targets. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1996, 115, 106-110.	0.6	7
120	Fluorination of graphene leads to susceptibility for nanopore formation by highly charged ion impact. <i>Physical Review Materials</i> , 2021, 5, .	0.9	7
121	Double Ionization of Helium by 40 MeV Protons. <i>Europhysics Letters</i> , 1994, 27, 341-346.	0.7	6
122	Evidence for convoy-electron shifts due to induced potentials. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1996, 115, 215-219.	0.6	6
123	High Fluence Ion Irradiation of Thin Fullertte Films. <i>Fullerenes, Nanotubes, and Carbon Nanostructures</i> , 1998, 6, 911-962.	0.6	6
124	Channeling energy loss of O ions in Si: The Barkas effect. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2002, 193, 172-177.	0.6	6
125	Inelastic energy loss in 100 keV H ⁺ scattering from single atoms: Theory and experiment for K, Rb, and Cs. <i>Physical Review B</i> , 2006, 74, .	1.1	6
126	Role of electronic excitations in the energy loss of H ₂ ⁺ projectiles in high- $\hat{\rho}$ materials. <i>Physical Review B</i> , 2009, 80, .	1.1	6

#	ARTICLE	IF	CITATIONS
127	Ultrafast electronic processes in an insulator: The Be and O sites in BeO. Nuclear Instruments & Methods in Physics Research B, 2013, 317, 48-55.	0.6	6
128	Neutralization and wake effects on the Coulomb explosion of swift H^+ ions traversing thin films. Physical Review A, 2015, 91, .	1.0	6
129	A comparison of ERBS spectra of compounds with Monte Carlo simulations. Surface and Interface Analysis, 2016, 48, 415-421.	0.8	6
130	Room temperature synthesis of HfO_2/HfO_x heterostructures by ion-implantation. Nanotechnology, 2018, 29, 425601.	1.3	6
131	Range parameters of Er, Ga and F implanted into SiC films. Nuclear Instruments & Methods in Physics Research B, 1994, 85, 579-583.	0.6	5
132	Compaction of Fullerite Films after High Fluence Ion and Electron Bombardment. Fullerenes, Nanotubes, and Carbon Nanostructures, 1997, 5, 511-526.	0.6	5
133	Depth profiles and amorphization behavior under channeling conditions for low energy Bi ions implanted into Si crystals. Nuclear Instruments & Methods in Physics Research B, 1999, 149, 301-311.	0.6	5
134	Molecular H ₂ and H ₃ energy loss measurements along the Si $\langle 111 \rangle$ direction. Nuclear Instruments & Methods in Physics Research B, 2000, 161-163, 168-171.	0.6	5
135	Spectroscopy of Si-Auger electrons from the center of heavy-ion tracks. Nuclear Instruments & Methods in Physics Research B, 2003, 209, 26-31.	0.6	5
136	Random energy loss and straggling study of ⁹ Be ions in silicon. Nuclear Instruments & Methods in Physics Research B, 2004, 219-220, 246-250.	0.6	5
137	The influence of the Coulomb explosion on the energy loss of Si^{5+} ions. Nuclear Instruments & Methods in Physics Research B, 2006, 248-250, 251-256.	0.6	5
138	Interplay between the Coulomb explosion and vicinage effects studied using H ₂ +molecules under channeling conditions. Physical Review B, 2006, 73, .	1.1	5
139	Indications for Enhanced Auger-Electron Absorption in a Hot-Electron Gas. Physical Review Letters, 2007, 99, 197602.	2.9	5
140	Isotopic labeling study of oxygen diffusion in amorphous LaScO ₃ high- $\hat{\rho}$ films on Si(100) and its effects on the electrical characteristics. Applied Physics A: Materials Science and Processing, 2009, 96, 447-451.	1.1	5
141	New approach for structural characterization of planar sets of nanoparticles embedded into a solid matrix. Scientific Reports, 2013, 3, 3414.	1.6	5
142	On the use of MEIS cartography for the determination of Si $1 \hat{x}$ Ge x thin-film strain. Thin Solid Films, 2016, 611, 101-106.	0.8	5
143	The influence of shallow core levels on the shape of REELS spectra. Journal of Electron Spectroscopy and Related Phenomena, 2018, 229, 42-46.	0.8	5
144	Impact Features Induced by Single Fast Ions of Different Charge-State on Muscovite Mica. Atoms, 2021, 9, 17.	0.7	5

#	ARTICLE	IF	CITATIONS
181	Round-Robin Test of Medium-Energy Ion Scattering for Quantitative Depth Profiling of Ultrathin HfO ₂ /SiO ₂ /Si Films. Journal of Surface Analysis (Online), 2019, 26, 96-97.	0.1	0