Philippe Dillmann

List of Publications by Year
in descending order

95	3,145	159585 30	168389 53
papers	citations	h-index	g-index

98	98	98	1684
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Corrosion of iron archaeological artefacts in soil: characterisation of the corrosion system. Corrosion Science, 2005, 47, 515-535.	6.6	244
2	Raman imaging of ancient rust scales on archaeological iron artefacts for long-term atmospheric corrosion mechanisms study. Journal of Raman Spectroscopy, 2006, 37, 1228-1237.	2.5	191
3	Structural characterization of corrosion products on archaeological iron: an integrated analytical approach to establish corrosion forms. Journal of Raman Spectroscopy, 2004, 35, 739-745.	2.5	162
4	Slag inclusion analyses for studying ferrous alloys employed in French medieval buildings: supply of materials and diffusion of smelting processes. Journal of Archaeological Science, 2007, 34, 1810-1823.	2.4	137
5	Long-term corrosion resistance of metallic reinforcements in concreteâ€"a study of corrosion mechanisms based on archaeological artefacts. Corrosion Science, 2005, 47, 1555-1581.	6.6	109
6	Buried iron archaeological artefacts: Corrosion mechanisms related to the presence of Cl-containing phases. Corrosion Science, 2007, 49, 2726-2744.	6.6	108
7	The evolution of the corrosion of iron in hydraulic binders analysed from 46- and 260-year-old buildings. Corrosion Science, 2010, 52, 3168-3179.	6.6	89
8	A corrosion study of the ferrous medieval reinforcement of the Amiens cathedral. Phase characterisation and localisation by various microprobes techniques. Corrosion Science, 2010, 52, 695-710.	6.6	81
9	Microbiologically influenced corrosion of archaeological artefacts: characterisation of iron(II) sulfides by Raman spectroscopy. Journal of Raman Spectroscopy, 2010, 41, 1425-1433.	2.5	78
10	The medieval iron market in AriÃ¨ge (France). Multidisciplinary analytical approach and multivariate analyses. Journal of Archaeological Science, 2012, 39, 1080-1093.	2.4	73
11	Deterioration of iron archaeological artefacts: micro-Raman investigation on Cl-containing corrosion products. Journal of Raman Spectroscopy, 2007, 38, 389-397.	2.5	68
12	Electrochemical study of indoor atmospheric corrosion layers formed on ancient iron artefacts. Electrochimica Acta, 2007, 52, 7754-7759.	5.2	64
13	Investigation at the nanometre scale on the corrosion mechanisms of archaeological ferrous artefacts by STXM. Journal of Analytical Atomic Spectrometry, 2013, 28, 59-66.	3.0	59
14	Does it come from the Pays de Bray? Examination of an origin hypothesis for the ferrous reinforcements used in French medieval churches using major and trace element analyses. Journal of Archaeological Science, 2009, 36, 2445-2462.	2.4	56
15	Iron corrosion in an anoxic soil: Comparison between thermodynamic modelling and ferrous archaeological artefacts characterised along with the local in situ geochemical conditions. Applied Geochemistry, 2010, 25, 1937-1948.	3.0	56
16	The use of natural and archeological analogues for understanding the long-term behavior of nuclear glasses. Comptes Rendus - Geoscience, 2011, 343, 237-245.	1.2	56
17	Silicate Glass Alteration Enhanced by Iron: Origin and Long-Term Implications. Environmental Science & Technology, 2013, 47, 750-756.	10.0	56
18	Corrosion of iron archaeological artefacts in soil: Estimation of the average corrosion rates involving analytical techniques and thermodynamic calculations. Corrosion Science, 2006, 48, 2947-2970.	6.6	55

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19	Iron reinforcements in Beauvais and Metz Cathedrals: from bloomery or finery? The use of logistic regression for differentiating smelting processes. Journal of Archaeological Science, 2014, 42, 315-333.	2.4	55
20	A study of the Roman iron bars of Saintes-Maries-de-la-Mer (Bouches-du-RhÃ´ne, France). A proposal for a comprehensive metallographic approach. Journal of Archaeological Science, 2011, 38, 1234-1252.	2.4	53
21	A methodology for Raman structural quantification imaging and its application to iron indoor atmospheric corrosion products. Journal of Raman Spectroscopy, 2011, 42, 773-781.	2.5	53
22	XAS and XRD in situ characterisation of reduction and reoxidation processes of iron corrosion products involved in atmospheric corrosion. Corrosion Science, 2014, 78, 293-303.	6.6	49
23	Structural evidence for the desalination of akaganeite in the preservation of iron archaeological objects, using synchrotron X-ray powder diffraction and absorption spectroscopy. Corrosion Science, 2009, 51, 2795-2802.	6.6	48
24	Raman study of a deuterated iron hydroxycarbonate to assess longâ€term corrosion mechanisms in anoxic soils. Journal of Raman Spectroscopy, 2011, 42, 1100-1108.	2.5	45
25	Effect of iron metal and siderite on the durability of simulated archeological glassy material. Corrosion Science, 2013, 76, 403-414.	6.6	42
26	A review of the archaeological analogue approaches to predict the long-term corrosion behaviour of carbon steel overpack and reinforced concrete structures in the French disposal systems. Journal of Nuclear Materials, 2010, 402, 196-205.	2.7	41
27	Effect of natural and synthetic iron corrosion products on silicate glass alteration processes. Geochimica Et Cosmochimica Acta, 2016, 172, 287-305.	3.9	40
28	Multisecular corrosion behaviour of low carbon steel in anoxic soils: Characterisation of corrosion system on archaeological artefacts. Materials and Corrosion - Werkstoffe Und Korrosion, 2009, 60, 99-105.	1.5	39
29	Consolidation or initial design? Radiocarbon dating of ancient iron alloys sheds light on the reinforcements of French Gothic Cathedrals. Journal of Archaeological Science, 2015, 53, 190-201.	2.4	36
30	Corrosion and conservation of cultural heritage metallic artefacts. , 2013, , .		36
31	Local and structural characterisation of chlorinated phases formed on ferrous archaeological artefacts by Î¼XRD and Î¼XANES. Nuclear Instruments & Methods in Physics Research B, 2005, 240, 500-504.	1.4	31
32	A provenance study of iron archaeological artefacts by Inductively Coupled Plasma-Mass Spectrometry multi-elemental analysis. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2008, 63, 1253-1262.	2.9	31
33	Study of archaeological artefacts to refine the model of iron long-term indoor atmospheric corrosion. Journal of Nuclear Materials, 2008, 379, 105-111.	2.7	30
34	Characterization of longâ€term corrosion of rebars embedded in concretes sampled on French historical buildings aged from 50 to 80 years. Materials and Corrosion - Werkstoffe Und Korrosion, 2009, 60, 93-98.	1.5	30
35	Circulation of iron products in the North-Alpine area during the end of the first Iron Age (6th-5th c.) Tj ETQq1 1 0.784314 rgBT /Overlo 108-124.	2.4	30
36	Characterisation of corrosion layers formed on ferrous archaeological artefacts buried in anoxic media. Corrosion Engineering Science and Technology, 2010, 45, 381-387.	1.4	29

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37	Interfacial layer on archaeological mild steel corroded in carbonated anoxic environments studied with coupled micro and nano probes. Corrosion Science, 2014, 88, 23-35.	6.6	28
38	Investigation of Cl corrosion products of iron archaeological artefacts using micro-focused synchrotron X-ray absorption spectroscopy. Applied Physics A: Materials Science and Processing, 2006, 83, 189-193.	2.3	27
39	Iron corrosion in archaeological context: Structural refinement of the ferrous hydroxychloride Î²-Fe 2 (OH) 3 Cl. Corrosion Science, 2015, 100, 589-598.	6.6	27
40	Electrical properties of iron corrosion layers formed in anoxic environments at the nanometer scale. Corrosion Science, 2018, 137, 98-110.	6.6	26
41	First Direct Dating for the Construction and Modification of the Baphuon Temple Mountain in Angkor, Cambodia. PLoS ONE, 2015, 10, e0141052.	2.5	26
42	Localisation of oxygen reduction sites in the case of iron long term atmospheric corrosion. Corrosion Science, 2011, 53, 2468-2473.	6.6	25
43	Archaeological analogues and corrosion prediction: from past to future. A review. Corrosion Engineering Science and Technology, 2014, 49, 567-576.	1.4	22
44	Long-term corrosion of rebars embedded in aerial and hydraulic binders â€“ Mechanisms and crucial physico-chemical parameters. Corrosion Science, 2008, 50, 2117-2123.	6.6	21
45	X-rays absorption study on medieval corrosion layers forÂtheÂunderstanding of very long-term indoor atmospheric iron corrosion. Applied Physics A: Materials Science and Processing, 2010, 99, 399-406.	2.3	21
46	Use of the gold markers method to predict the mechanisms of iron atmospheric corrosion. Corrosion Science, 2011, 53, 2122-2130.	6.6	21
47	Stabilization treatment of cultural heritage artefacts: In situ monitoring of marine iron objects dechlorinated in alkali solution. Corrosion Science, 2018, 132, 21-34.	6.6	20
48	A study of transport phenomena in the corrosion products of ferrous archaeological artefacts using 18O tracing and nuclear microprobe analysis. Nuclear Instruments & Methods in Physics Research B, 2005, 240, 554-558.	1.4	19
49	X-ray absorption spectroscopy study of the various forms of phosphorus in ancient iron samples. Journal of Analytical Atomic Spectrometry, 2011, 26, 885.	3.0	19
50	Long-term corrosion of rebars embedded in aerial and hydraulic binders â€“ Parametric study and first step of modelling. Corrosion Science, 2008, 50, 3047-3055.	6.6	18
51	Investigation of iron long-term corrosion mechanisms in anoxic media using deuterium tracing. Journal of Nuclear Materials, 2012, 423, 61-66.	2.7	18
52	Characterisation of iron archaeological analogues using micro diffraction under synchrotron radiation. Application to the study of long term corrosion behaviour of low alloy steels. European Physical Journal Special Topics, 2002, 12, 393-408.	0.2	17
53	Corrosion of iron from heritage buildings: proposal for degradation indexes based on rust layer composition and electrochemical reactivity. Corrosion Engineering Science and Technology, 2010, 45, 375-380.	1.4	17
54	Influence of corrosion products nature on dechlorination treatment: case of wrought iron archaeological ingots stored 2 years in air before NaOH treatment. Corrosion Engineering Science and Technology, 2010, 45, 407-413.	1.4	17

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55	The complex corrosion system of a medieval iron rebar from the Bourgesâ€™ Cathedral. Characterization and reactivity studies. Corrosion Science, 2013, 76, 361-372.	6.6	16
56	Interfacial layers at a nanometre scale on iron corroded in carbonated anoxic environments. RSC Advances, 2017, 7, 20101-20115.	3.6	16
57	Vice-versa: The iron trade in the western Roman Empire between Gaul and the Mediterranean. PLoS ONE, 2022, 17, e0268209.	2.5	12
58	Fluctuation of redox conditions in radioactive waste disposal cell: characterisation of corrosion layers formed on archaeological analogues. Corrosion Engineering Science and Technology, 2011, 46, 199-204.	1.4	11
59	Cargoes of Iron Semiâ€Products Recovered from Shipwrecks off the <scp>C</scp>armel Coast, <scp>I</scp>srael. Archaeometry, 2015, 57, 505-535.	1.3	11
60	Ancient armour provenance by LA-ICP-MS analysis of microscopic slag inclusions. Journal of Analytical Atomic Spectrometry, 2020, 35, 2582-2593.	3.0	11
61	Contribution of iron archaeological artefacts to the estimation of average corrosion rates and the long-term corrosion mechanisms of low-carbon steel buried in soil. , 2007, , 41-76.		10
62	â€˜Guard the Good Depositâ€™: Technology, Provenance and Dating of Bipyramidal Iron Semiâ€Products of the Durrenentzen Deposit (Hautâ€Rhin, France). Archaeometry, 2018, 60, 290-307.	1.3	10
63	Fabrication of a suit of armour at the end of Middle Ages: An extensive archaeometallurgical characterization of the armour of Laval. Journal of Cultural Heritage, 2022, 53, 88-99.	3.3	10
64	Deciphering the Iron Provenance on a Medieval Building Yard: The Case of Bourges Cathedral. Minerals (Basel, Switzerland), 2020, 10, 1131.	2.0	9
65	The bridge of Dieulouard (Meurthe-et-Moselle, France): a fresh perspective on metal supply strategies in Carolingian economy. ArcheoSciences, 2016, , 149-161.	0.1	9
66	Material degradation foreseen in the very long term: the case of glasses and ferrous metals. Npj Materials Degradation, 2017, 1, .	5.8	8
67	New Insights in the Long-Term Atmospheric Corrosion Mechanisms of Low Alloy Steel Reinforcements of Cultural Heritage Buildings. Materials, 2017, 10, 670.	2.9	8
68	Modelling the corrosionâ€induced cracking of reinforced concrete structures exposed to the atmosphere. Materials and Corrosion - Werkstoffe Und Korrosion, 2011, 62, 943-947.	1.5	7
69	The long-term corrosion of mild steel in depassivated concrete: Localizing the oxygen reduction sites in corrosion products by isotopic tracer method. Journal of Materials Research, 2011, 26, 3107-3115.	2.6	7
70	Influence of an aerated/anoxic transient phase on the long-term corrosion of iron. Corrosion Science, 2014, 86, 71-80.	6.6	7
71	Corrosion product transformations in alkaline baths under pressure and high temperature: The subâ€critical stabilisation of marine iron artefacts stored under atmospheric conditions. Materials and Corrosion - Werkstoffe Und Korrosion, 2016, 67, 190-199.	1.5	7
72	Use of nanoprobes to identify iron-silicates in a glass/iron/argillite system in deep geological disposal. Corrosion Science, 2019, 158, 108104.	6.6	7

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73	Microstructural Characterization and Mechanical Properties of Iron Reinforcements in Buildings from the Medieval and Modern Periods in France. International Journal of Architectural Heritage, 2019, 13, 507-519.	3.1	6
74	Transformations of the chemical signature of slag inclusions throughout experimental refining and first shaping of bloomery iron: New methodological developments. Journal of Archaeological Science: Reports, 2020, 34, 102653.	0.5	6
75	Species transport in the corrosion products of ferrous archaeological analogues: a contribution to the modelling of long-term iron corrosion mechanisms. , 2007, , 92-108.		5
76	In situstructural characterisation of nonstable phases involved in atmospheric corrosion of ferrous heritage artefacts. Corrosion Engineering Science and Technology, 2010, 45, 395-399.	1.4	5
77	Long-term anoxic corrosion of iron. , 2013, , 260-284.		5
78	XANES at the Cl K-edge as a relevant technique to reveal the iron archaeological artefact dechlorination treatments. Journal of Analytical Atomic Spectrometry, 2020, 35, 2358-2368.	3.0	5
79	The fate of Si and Fe while nuclear glass alters with steel and clay. Npj Materials Degradation, 2021, 5, .	5.8	5
80	Characterization of Slag Inclusions in Iron Objects. Natural Science in Archaeology, 2016, , 213-228.	1.7	5
81	DerniÃ¨res avancÃ©es des Ã©tudes sur la production, la circulation et la datation des mÃ©taux ferreux archÃ©ologiques. Les Nouvelles De L'archÃ©ologie, 2015, , 28-34.	0.0	5
82	Impact of laser-induced breakdown spectroscopy implementation for the quantification of carbon content distribution in archaeological ferrous metals. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 172, 105964.	2.9	4
83	Contribution of archaeological analogues to the comprehension of long term corrosion of concrete reinforcements. European Physical Journal Special Topics, 2006, 136, 295-304.	0.2	4
84	New insights of Auger spectroscopy for the identification of Fe-Si compounds in iron/glass corrosion systems at nanoscale. Journal of Electron Spectroscopy and Related Phenomena, 2019, 235, 51-59.	1.7	3
85	Investigation of steel corrosion in MX80 bentonite at 120Â°C. Materials and Corrosion - Werkstoffe Und Korrosion, 2021, 72, 120-130.	1.5	3
86	A new understanding of the chronology, circulation and function of Iron Age (8thâ€“1st c. BC) ferrous semi-products in north-eastern France. Archaeological and Anthropological Sciences, 2021, 13, 1.	1.8	3
87	An Analytical Methodology for the Study of the Corrosion of Ferrous Archaeological Remains in Soils. Conservation and Management of Archaeological Sites, 2012, 14, 16-27.	0.5	2
88	From Archaeological Sites to Nanoscale: The Quest of Tailored Analytical Strategy and Modelling. , 2016, , 205-230.		2
89	Analyse technologique, Ã©tude de provenance et datation par le radiocarbone du dÃ©pÃ´t de demi-produits ferreux de Durrenentzen (Haut-Rhin, France)Â: une vision renouvelÃ©e de lâ€™Ã©conomie du fer au premier Ã¢ge du Fer. ArcheoSciences, 2017, , 45-67.	0.1	2
90	The medieval bombards of Meaux: Manufacturing processes and supply of the metal. Journal of Archaeological Science: Reports, 2022, 41, 103307.	0.5	2

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91	Chapter 14. Corrosion of Ferrous Archaeological and Cultural Heritage Artefacts. , 2012, , 399-425.		1
92	Comparative study on quantitative carbon content mapping in archaeological ferrous metals with laser-induced plasma spectroscopy (LIBS) and nuclear reaction analysis (NRA) for 3D representation by LIBS. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 194, 106454.	2.9	1
93	Nanoscale Aspects of Corrosion on Cultural Heritage Metals. , 2016, , 233-252.		0
94	Multitechnique investigation of sulfur phases in the corrosion product layers of iron corroded in longâ€term anoxic conditions: From micrometer to nanometer scale. Surface and Interface Analysis, 2018, 50, 1036-1041.	1.8	0
95	11. Les mÃ©taux ferreux archÃ©ologiques. , 2013, , 153-167.		0