

Stéphane Mathieu

List of Publications by Year in descending order

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71
papers

1,592
citations

361045

20
h-index

315357

38
g-index

71
all docs

71
docs citations

71
times ranked

1000
citing authors

#	ARTICLE	IF	CITATIONS
1	A corrosion study of the main constituent phases of AZ91 magnesium alloys. <i>Corrosion Science</i> , 2003, 45, 2741-2755.	3.0	259
2	Corrosion behaviour of high pressure die-cast and semi-solid cast AZ91D alloys. <i>Corrosion Science</i> , 2002, 44, 2737-2756.	3.0	185
3	On the oxidation mechanism of niobium-base in situ composites. <i>Corrosion Science</i> , 2012, 60, 181-192.	3.0	116
4	The oxidation behaviour of uniaxial hot pressed MoSi ₂ in air from 400 to 1400°C. <i>Intermetallics</i> , 2011, 19, 1207-1215.	1.8	72
5	Development of silicide coatings to ensure the protection of Nb and silicide composites against high temperature oxidation. <i>Surface and Coatings Technology</i> , 2013, 235, 401-406.	2.2	58
6	Inhibitors for magnesium corrosion: Metal organic frameworks. <i>Solid State Sciences</i> , 2007, 9, 322-328.	1.5	57
7	Towards the growth of stoichiometric chromia on pure chromium by the control of temperature and oxygen partial pressure. <i>Corrosion Science</i> , 2017, 126, 238-246.	3.0	51
8	Experimental and thermodynamic study of the microstructure evolution in cobalt-base superalloys at high temperature. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2003, 27, 353-359.	0.7	43
9	Oxidation behaviour of arc-melted and uniaxial hot pressed MoSi ₂ at 500 °C. <i>Intermetallics</i> , 2010, 18, 2267-2274.	1.8	41
10	A comparison of the high-temperature oxidation behaviour of conventional wrought and laser beam melted Inconel 625. <i>Corrosion Science</i> , 2020, 164, 108347.	3.0	38
11	Towards the improvement of the oxidation resistance of Nb-silicides in situ composites: A solid state diffusion approach. <i>Corrosion Science</i> , 2014, 79, 119-127.	3.0	34
12	Oxide Growth Characterization During Short-Time Oxidation of a Commercially Available Chromia-Forming Alloy (HR-120) in Air at 1,050°C. <i>Oxidation of Metals</i> , 2013, 80, 25-35.	1.0	33
13	Duplex n- and p-Type Chromia Grown on Pure Chromium: A Photoelectrochemical and Microscopic Study. <i>Oxidation of Metals</i> , 2016, 86, 497-509.	1.0	33
14	Effect of microstructure and precipitation phenomena on the mechanical behavior of AA6061-T6 aluminum alloy weld. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 102, 2907-2918.	1.5	33
15	On the Oxidation and Nitridation of Chromium at 1300°C. <i>Oxidation of Metals</i> , 2010, 74, 79-92.	1.0	30
16	Effect of boron addition on the oxidation resistance of silicide protective coatings: A focus on boron location in as-coated and oxidised coated niobium alloys. <i>Surface and Coatings Technology</i> , 2014, 253, 292-299.	2.2	29
17	Thermodynamic calculations for studying high temperature oxidation of superalloys. <i>Calphad: Computer Coupling of Phase Diagrams and Thermochemistry</i> , 2003, 27, 279-288.	0.7	28
18	Effect of tin addition on Nb-Si-based in situ composites. Part II: Oxidation behaviour. <i>Intermetallics</i> , 2014, 47, 43-52.	1.8	27

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19	Multi-layered silicides coating for vanadium alloys for generation IV reactors. Surface and Coatings Technology, 2012, 206, 4594-4600.	2.2	24
20	The Role of Oxygen Partial Pressure on the Nature of the Oxide Scale on a NiCr Model Alloy. Oxidation of Metals, 2017, 88, 481-493.	1.0	22
21	Influence of Water Vapour on the Rate of Oxidation of a Ni-25wt.%Cr Alloy at High Temperature. Oxidation of Metals, 2013, 79, 517-527.	1.0	21
22	Nb ₄ Fe ₄ Si ₇ coatings to protect niobium and niobium silicide composites against high temperature oxidation. Surface and Coatings Technology, 2013, 235, 144-154.	2.2	20
23	An overview of the oxidation performance of silicide diffusion coatings for vanadium-based alloys for generation IV reactors. Corrosion Science, 2013, 66, 285-291.	3.0	19
24	Advanced STEM/EDX investigation on an oxide scale thermally grown on a high-chromium iron-nickel alloy under very low oxygen partial pressure. Corrosion Science, 2015, 101, 193-200.	3.0	19
25	Semiconducting properties of thermal scales grown on a chromia-forming alloy under controlled oxygen partial pressures. Corrosion Science, 2014, 87, 218-223.	3.0	18
26	Potential and limitations of microanalysis SEM techniques to characterize borides in brazed Ni-based superalloys. Materials Characterization, 2014, 94, 46-57.	1.9	16
27	Effect of tin addition on Nb-Si-based in situ composites. Part I: Structural modifications. Intermetallics, 2014, 47, 36-42.	1.8	16
28	Effect of oxygen partial pressure on the semiconducting properties of thermally grown chromia on pure chromium. Corrosion Science, 2018, 141, 46-52.	3.0	16
29	In Situ Oxide Growth Characterization of Mn-Containing Ni-25Cr (wt%) Model Alloys at 1050°C. Oxidation of Metals, 2018, 89, 781-795.	1.0	14
30	Protective Coatings for Niobium Alloys: Manufacture, Characterization and Oxidation Behaviour of (Ti _x Cr) ₇ Si ₆ with x=Fe, Co and Ni. Oxidation of Metals, 2013, 80, 243-255.	1.0	13
31	Y ₂ SiO ₅ environmental barrier coatings for niobium silicide based materials. Materials at High Temperatures, 2015, 32, 74-80.	0.5	13
32	On the interdiffusion in multilayered silicide coatings for the vanadium-based alloy V-4Cr-4Ti. Journal of Nuclear Materials, 2017, 484, 148-156.	1.3	13
33	Long-term isothermal oxidation behavior of two industrial polycrystalline nickel base alloys in air at 700 °C - Evaluation of intergranular oxidation distribution and kinetic. Corrosion Science, 2021, 188, 109500.	3.0	12
34	The ability of silicide coating to delay the catastrophic oxidation of vanadium under severe conditions. Journal of Nuclear Materials, 2015, 457, 124-129.	1.3	11
35	Electrochemical characterization of chromia- and alumina-forming nickel-based superalloys in molten silicates. Applied Surface Science, 2016, 360, 510-518.	3.1	11
36	Lifetime of environmental/thermal barrier coatings deposited on a niobium silicide composite with boron containing M ₇ Si ₆ -based bond coat. Materials and Corrosion - Werkstoffe Und Korrosion, 2016, 67, 1252-1260.	0.8	10

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37	Protection of cobalt-based refractory alloys by chromium deposition on surface. Surface and Coatings Technology, 2011, 205, 3708-3715.	2.2	8
38	Environmental/thermal barrier coating systems deposited on Nb/Nb ₅ Si ₃ based alloy. Materials at High Temperatures, 2015, 32, 50-56.	0.5	8
39	Isothermal and cyclic oxidation behaviour of hot-pressed MSi ₂ compounds (with M=V, Ti, Cr). Intermetallics, 2015, 65, 35-41.	1.8	8
40	Correlation Between the Pitting Potential Evolution and σ Phase Precipitation Kinetics in the 2205 Duplex Stainless Steel. Journal of Materials Engineering and Performance, 2018, 27, 3911-3919.	1.2	8
41	Thermodynamic modeling of the V-Cr-Si system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2015, 48, 166-174.	0.7	7
42	Phase equilibria investigations and thermodynamic modeling of the system Bi ₂ O ₃ -Al ₂ O ₃ . Journal of Nuclear Materials, 2015, 457, 72-79.	1.3	7
43	Chromia Scale Thermally Grown on Pure Chromium Under Controlled p(O ₂) Atmosphere: Spallation Investigation Using Photoelectrochemical Techniques at a Microscale. Oxidation of Metals, 2018, 90, 267-277.	1.0	7
44	State of the Sub-Surface Microstructure of Carbides Strengthened Cast Superalloys after High Temperature Oxidation – Use of Thermodynamic Modelling for a Better Understanding. Materials Science Forum, 2004, 461-464, 1117-1124.	0.3	6
45	Evaluation of the Compatibility of Aluminide Coatings in High-Temperature Sodium for Fast Reactor Application. Oxidation of Metals, 2017, 88, 221-233.	1.0	6
46	Chromia Scale Thermally Grown on Pure Chromium Under Controlled p(O ₂) Atmosphere: I. Spallation Investigation Using Photoelectrochemical Techniques at a Mesoscale. Oxidation of Metals, 2018, 90, 255-266.	1.0	6
47	Kinetics and Mechanisms of Tantalum Corrosion in Glass Melts. Journal of the Electrochemical Society, 2004, 151, B661.	1.3	5
48	Development of Chromium and Aluminum Coatings on Superalloys by Pack-Cementation Technique. Advanced Materials Research, 0, 278, 491-496.	0.3	5
49	About the control of semiconducting properties of chromia: investigation using photoelectrochemistry and orientation mapping in a TEM. Materials at High Temperatures, 2018, 35, 159-167.	0.5	5
50	Microstructural characterization of the protective oxide scale forming on Ni ₂₅ Cr _x Mn (x=0.5, 1 and 2) Tj ETQg 0 0 0 rgBT /Overlo	2.8	5
51	Protection of cobalt-based refractory alloys by chromium deposition on surface. Surface and Coatings Technology, 2011, 205, 5241-5247.	2.2	4
52	Effect of Zinc Chloride in Ash in Oxidation Kinetics of Ni-Based and Fe-Based Alloys. Oxidation of Metals, 2016, 85, 547-563.	1.0	4
53	Evaluation and application of a new scintillator-based heat-resistant backscattered electron detector during heat treatment in the scanning electron microscope. Journal of Microscopy, 2021, 282, 45-59.	0.8	4
54	Oxidation and Nitridation of Pure Chromium at Elevated Temperature in Synthetic Air – Effect of Silicon Addition. Materials Science Forum, 0, 595-598, 1047-1055.	0.3	3

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55	Oxidation and crystallographic features of the new prototype structure Ti ₄ NiSi ₄ . Intermetallics, 2013, 40, 1-9.	1.8	3
56	Experimental isothermal section at 1200°C of V-Cr-Si system. Intermetallics, 2014, 49, 115-120.	1.8	3
57	Kinetic and metallographic study of oxidation at high temperature of cast Ni 25Cr alloy in water vapour rich air. Materials at High Temperatures, 2015, 32, 530-538.	0.5	3
58	Environmental protection of Nb/Nb ₅ Si ₃ -based alloys by E/TBC systems. Intermetallics, 2018, 93, 169-179.	1.8	3
59	On the Pre-oxidation Treatments of Four Commercial Ni-Based Superalloys in Air and in H ₂ O at 950°C. Oxidation of Metals, 2018, 90, 43-63.	1.0	3
60	About the Synergetic Influence of Manganese and Silicon on the Oxidation Rate of Chromia Forming Nickel-Based Model Alloys at 1050°C. Oxidation of Metals, 2020, 94, 235-249.	1.0	3
61	Experimental study of the solid-liquid phase equilibria at the Si-rich region of the Cr-Nb-Si system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2017, 56, 154-159.	0.7	2
62	Influence of atmosphere on high temperature oxidation of Fe-Cr-Si model alloy. Materials and Corrosion - Werkstoffe Und Korrosion, 2019, 70, 1410-1415.	0.8	2
63	Investigation of the metal dusting attack on the temperature range 500~700°C using X-ray tomography. Corrosion Science, 2021, 192, 109863.	3.0	2
64	Elaboration and Characterization of the Properties of Refractory Cr Base Alloys. Advances in Science and Technology, 0, , .	0.2	1
65	Experimental study of the liquid-solid phase equilibria of the V-Cr-Si system. Journal of Alloys and Compounds, 2014, 615, 882-885.	2.8	1
66	Investigation of phases and textures of binary V-Si coating deposited on vanadium-based alloy (V-4Cr-4Ti) using electron backscatter diffraction. IOP Conference Series: Materials Science and Engineering, 2015, 82, 012061.	0.3	1
67	Crystallographic Features of Phases Involved in the Oxidation of Ti ₃ Ni ₃ CrSi ₆ . Oxidation of Metals, 2017, 88, 257-266.	1.0	1
68	EBSDF and TEM Microstructural Studies of New Fuel Cladding in Generation IV Sodium-cooled Fast Nuclear Reactors. Microscopy and Microanalysis, 2017, 23, 2224-2225.	0.2	1
69	Structures of quaternary chromium silicides revealed by a combination of resonant X-ray diffraction and ab initio calculations. Intermetallics, 2019, 105, 130-138.	1.8	1
70	Should Gold Marker or TEM-ASTAR Characterization Be Used to Determine Oxide Growth Direction?. Oxidation of Metals, 2021, 96, 201-211.	1.0	1
71	Microstructural Evolution and Electrochemical Behavior of Solution Treated, Hot Rolled and Aged MgDyZnZr Alloy. Metals, 2021, 11, 1855.	1.0	0