Guillaume Kermouche

List of Publications by Year
in descending order

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Version: 2024-02-01

113 papers	1,832 citations	279701 23 h-index	345118 36 g-index
115 all docs	115 docs citations	115 times ranked	1459 citing authors

#	Article	IF	Citations
1	Mechanical modelling of indentation-induced densification in amorphous silica. Acta Materialia, 2008, 56, 3222-3228.	3.8	111
2	Extraction of stressâ€“strain curves of elasticâ€“viscoplastic solids using conical/pyramidal indentation testing with application to polymers. Mechanics of Materials, 2008, 40, 271-283.	1.7	79
3	Atomistic response of a model silica glass under shear and pressure. European Physical Journal B, 2012, 85, 1.	0.6	74
4	Characterization and modelling of the residual stresses induced by belt finishing on a AISI52100 hardened steel. Journal of Materials Processing Technology, 2008, 208, 187-195.	3.1	72
5	Plastic deformation and residual stresses in amorphous silica pillars under uniaxial loading. Acta Materialia, 2012, 60, 5555-5566.	3.8	63
6	Determination of mechanical properties by nanoindentation independently of indentation depth measurement. Journal of Materials Research, 2012, 27, 2551-2560.	1.2	53
7	Perfectly plastic flow in silica glass. Acta Materialia, 2016, 114, 146-153.	3.8	49
8	Experimental and numerical study of the ploughing part of abrasive wear. Wear, 2003, 255, 30-37.	1.5	47
9	Brittle to ductile transition of tribomaterial in relation to wear response at high temperatures. Wear, 2017, 392-393, 60-68.	1.5	47
10	On the residual stress field induced by a scratching round abrasive grain. Wear, 2010, 269, 86-92.	1.5	43
11	Surface Integrity in Abrasive Flow Machining of Hardened Tool Steel AISI D2. Procedia Engineering, 2011, 19, 172-177.	1.2	43
12	Numerical study of scratch velocity effect on recovery of viscoelasticâ€“viscoplastic solids. International Journal of Mechanical Sciences, 2010, 52, 455-463.	3.6	41
13	Raman Mapping of the Indentationâ€Induced Densification of a Sodaâ€Limeâ€Silicate Glass. International Journal of Applied Glass Science, 2012, 3, 29-35.	1.0	41
14	Cone indentation of time-dependent materials: The effects of the indentation strain rate. Mechanics of Materials, 2007, 39, 24-38.	1.7	39
15	Densification dependent yield criteria for sodium silicate glasses â€“ An atomistic simulation approach. Acta Materialia, 2016, 111, 129-137.	3.8	32
16	Impact of tungsten recrystallization on ITER-like components for lifetime estimation. Fusion Engineering and Design, 2019, 138, 247-253.	1.0	30
17	Finite element modeling of the scratch response of a coated time-dependent solid. Wear, 2009, 267, 1945-1953.	1.5	29
18	Combined numerical and experimental approach of the impact-sliding wear of a stainless steel in a nuclear reactor. Wear, 2007, 263, 1551-1555.	1.5	28

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19	Micropillar Testing of Amorphous Silica. International Journal of Applied Glass Science, 2012, 3, 36-43.	1.0	27
20	Near surface transformations of stainless steel cold spray and laser cladding deposits after turning and ball-burnishing. Surface and Coatings Technology, 2019, 371, 235-244.	2.2	26
21	Finite element analysis of the grain size effect on diffusion in polycrystalline materials. Computational Materials Science, 2014, 95, 187-191.	1.4	25
22	Recrystallization at high temperature of two tungsten materials complying with the ITER specifications. Journal of Nuclear Materials, 2020, 542, 152418.	1.3	25
23	An approximate solution to the problem of cone or wedge indentation of elastoplastic solids. Comptes Rendus - Mecanique, 2005, 333, 389-395.	2.1	24
24	High strain rate micro-compression for crystal plasticity constitutive law parameters identification. Materials and Design, 2020, 193, 108789.	3.3	24
25	On the plastic deformation of soda-lime glassâ€“a Cr³⁺luminescence study of densification. Philosophical Magazine, 2011, 91, 1245-1255.	0.7	23
26	Performance assessment of thick W/Cu graded interlayer for DEMO divertor target. Fusion Engineering and Design, 2020, 157, 111610.	1.0	23
27	Damage phenomena of thin hard coatings submitted to repeated impacts: Influence of the substrate and film properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 560, 296-305.	2.6	22
28	Impact of pressure on plastic yield in amorphous solids with open structure. Physical Review E, 2016, 93, 033001.	0.8	22
29	Experimental and Numerical Study of Media Action During Tribofinishing in the Case of SLM Titanium Parts. Procedia CIRP, 2017, 58, 451-456.	1.0	22
30	Microstructural and micromechanical investigations of surface strengthening mechanisms induced by repeated impacts on pure iron. Materials and Design, 2018, 147, 56-64.	3.3	21
31	Modelling of the residual stresses induced by belt finishing on a AISI52100 hardened steel. International Journal of Material Forming, 2008, 1, 567-570.	0.9	20
32	Experimental study of wear-induced delamination for DLC coated automotive components. Surface and Coatings Technology, 2018, 352, 549-560.	2.2	20
33	Realization of high heat flux tungsten monoblock type target with graded interlayer for application to DEMO divertor. Physica Scripta, 2017, T170, 014022.	1.2	19
34	Plastic response of amorphous silicates, from atomistic simulations to experiments â€“ A general constitutive relation. Mechanics of Materials, 2017, 114, 1-8.	1.7	18
35	In situ characterization of AA1050 recrystallization kinetics using high temperature nanoindentation testing. Materials and Design, 2018, 152, 22-29.	3.3	18
36	Extraction of Mechanical Properties with Second Harmonic Detection for Dynamic Nanoindentation Testing. Experimental Mechanics, 2012, 52, 933-944.	1.1	17

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37	Numerical and experimental analysis of dynamic oblique impact: Effect of impact angle. Wear, 2015, 332-333, 1028-1034.	1.5	17
38	Assessment of mechanical property gradients after impact-based surface treatment: application to pure Î±-iron. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 667, 189-198.	2.6	17
39	Indentation cracking in silicate glasses is directed by shear flow, not by densification. Acta Materialia, 2020, 194, 473-481.	3.8	17
40	Identifying the stressâ€“strain curve of materials by microimpact testing. Application on pure copper, pure iron, and aluminum alloy 6061-T651. Journal of Materials Research, 2015, 30, 2222-2230.	1.2	16
41	Highlighting the impact of shear strain on the SiO2 glass structure: From experiments to atomistic simulations. Journal of Non-Crystalline Solids, 2020, 533, 119898.	1.5	16
42	Effects of micro-knurling and femtosecond laser micro texturing on aluminum long-term surface wettability. Applied Surface Science, 2019, 479, 344-350.	3.1	15
43	A high power laser facility to conduct annealing tests at high temperature. Review of Scientific Instruments, 2020, 91, 035102.	0.6	15
44	Indentation creep vs. indentation relaxation: A matter of strain rate definition?. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 781, 139246.	2.6	15
45	2D axisymmetric X-FEM modeling of the Hertzian cone crack system. Comptes Rendus - Mecanique, 2013, 341, 715-725.	2.1	14
46	Durability of Bioclogging Treatment of Soils. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2016, 142, .	1.5	14
47	Effect of crystal orientation on indentation-induced residual stress field: Simulation and experimental validation. Materials and Design, 2019, 169, 107659.	3.3	14
48	Investigation of mechanically attrited structures induced by repeated impacts on an AISI1045 steel. Comptes Rendus - Mecanique, 2011, 339, 552-562.	2.1	13
49	Local identification of the stressâ€“strain curves of metals at a high strain rate using repeated micro-impact testing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 569, 71-77.	2.6	12
50	Viscoelastic-Viscoplastic Modelling of the Scratch Response of PMMA. Advances in Materials Science and Engineering, 2013, 2013, 1-10.	1.0	12
51	A simple method to minimize displacement measurement uncertainties using dynamic nanoindentation testing. Tribology International, 2014, 70, 190-198.	3.0	12
52	Hydrogen effect on dislocation nucleation in a ferritic alloy Feâ€“15Cr as observed per nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 604, 86-91.	2.6	12
53	Quantitative thermal imperfection definition using non-destructive infrared thermography on an advanced DEMO divertor concept. Physica Scripta, 2017, T170, 014015.	1.2	12
54	A new long-term indentation relaxation method to measure creep properties at the micro-scale with application to fused silica and PMMA. Mechanics of Materials, 2019, 137, 103095.	1.7	12

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55	A new method to determine the true projected contact area using nanoindentation testing. Comptes Rendus - Mecanique, 2015, 343, 410-418.	2.1	11
56	Theoretical and experimental analysis of indentation relaxation test. Journal of Materials Research, 2017, 32, 2286-2296.	1.2	10
57	High-Temperature Scanning Indentation: A new method to investigate in situ metallurgical evolution along temperature ramps. Journal of Materials Research, 2021, 36, 2383-2396.	1.2	10
58	Energy feedthrough and microstructure evolution during direct laser peening of aluminum in femtosecond and picosecond regimes. Journal of Applied Physics, 2021, 130, .	1.1	10
59	A new index to estimate the strain rate sensitivity of glassy polymers using conical/pyramidal indentation. Philosophical Magazine, 2006, 86, 5667-5677.	0.7	9
60	Estimation of the stress relief induced in CrN thin films by buckling. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 7912-7919.	2.6	9
61	Combination of mechanical and chemical pre-treatments to improve nitriding efficiency on pure iron. Applied Surface Science, 2017, 414, 73-81.	3.1	9
62	3D numerical modelling of turning-induced residual stresses â€“ A two-scale approach based on equivalent thermo-mechanical loadings. Journal of Materials Processing Technology, 2021, 297, 117274.	3.1	9
63	Spot Weld Strength Determination Using the Wedge Test: <i>In Situ</i> Observations and Coupled Simulations. Applied Mechanics and Materials, 0, 24-25, 299-304.	0.2	8
64	Investigation of indentation-, impact- and scratch-induced mechanically affected zones in a copper single crystal. Comptes Rendus - Mecanique, 2015, 343, 344-353.	2.1	8
65	A semitopological mean-field model of discontinuous dynamic recrystallization. Journal of Materials Science, 2018, 53, 8554-8566.	1.7	8
66	Numerical modelling of fatigue crack's initiation in rolling contact of sintered steels. Journal of Materials Processing Technology, 2005, 164-165, 1185-1191.	3.1	7
67	Determination of CTOA in the molten material of spot welds using the Digital Image Correlation technique. Engineering Fracture Mechanics, 2012, 86, 48-55.	2.0	7
68	Investigation of the surface integrity induced by abrasive flow machining on AISI D2 hardened steel. International Journal of Materials and Product Technology, 2013, 46, 19.	0.1	7
69	Modeling nitriding enhancement resulting from the NanoPeening treatment of a Pure Iron. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012124.	0.3	7
70	Inverse identification of tungsten static recrystallization kinetics under high thermal flux. Fusion Engineering and Design, 2019, 146, 1759-1763.	1.0	7
71	Performance assessment of high heat flux W monoblock type target using thin graded and copper interlayers for application to DEMO divertor. Fusion Engineering and Design, 2019, 146, 858-861.	1.0	7
72	Evolution of the surface integrity while turning a fillet radius in a martensitic stainless steel 15-5PH. Procedia CIRP, 2020, 87, 101-106.	1.0	7

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73	An Attempt to Assess Recovery/Recrystallization Kinetics in Tungsten at High Temperature Using Statistical Nanoindentation Analysis. Crystals, 2021, 11, 37.	1.0	7
74	Temperatureâ€“dependent dynamic plasticity of micro-scale fused silica. Materials and Design, 2022, 215, 110503.	3.3	7
75	Microstructural evolution and mechanical properties of ultrafine-grained pure Î±-iron and Fe-0.02%C steel processed by high-pressure torsion: Influence of second-phase particles. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 795, 139915.	2.6	6
76	Turning-induced surface integrity for a fillet radius in a 316L austenitic stainless steel. Journal of Manufacturing Processes, 2021, 68, 222-230.	2.8	6
77	Mesoscopic Strain Fields Measurement During the Allotropic Î± â†’ Î³ Transformation in High Purity Iron. Experimental Mechanics, 2019, 59, 1145-1157.	1.1	5
78	Microstructural and mechanical characterization of a shot peening induced rolled edge on direct aged Inconel 718 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 816, 141318.	2.6	5
79	Failure Mechanisms of Thin Hard Coatings Submitted to Repeated Impacts: Influence of the Film Thickness. Advanced Materials Research, 0, 112, 73-82.	0.3	4
80	Development of an improved method for identifying material stressâ€“strain curve using repeated micro-impact testing. Mechanics of Materials, 2015, 86, 11-20.	1.7	4
81	Is the second harmonic method applicable for thin films mechanical properties characterization by nanoindentation?. Philosophical Magazine, 2015, 95, 1999-2011.	0.7	4
82	Microstructure Evolution Induced by Sliding-Based Surface Thermomechanical Treatments - Application to Pure Copper. Materials Science Forum, 0, 879, 915-920.	0.3	4
83	Extrinsic Measurement of Carbon Black Aggregate Distribution within a Fluoroelastomer Matrix from Nanoindentation Experiments. ACS Applied Materials & Interfaces, 2020, 12, 6716-6726.	4.0	4
84	Real time imaging of strain fields induced by the ferrite-to-austenite transformation in high purity iron. Materials Today Communications, 2020, 24, 101028.	0.9	4
85	Identification du comportement mÃ©canique des matÃ©riaux Ã lâ€™aide dâ€™essais de micro-impact rÃ©pÃ©tÃ©s. Materiaux Et Techniques, 2014, 102, 604.	0.3	4
86	Competition between recovery and recrystallization in two tungsten supplies according to ITER specifications. Journal of Materials Science, 2022, 57, 7729-7746.	1.7	4
87	Simulation numÃ©rique de la rayure des matÃ©riaux. European Journal of Computational Mechanics, 2006, 15, 221-232.	0.6	3
88	Mechanical study of polymers in scratch test. International Journal of Material Forming, 2008, 1, 595-598.	0.9	3
89	Mechanical Investigation of the Healing Phenomenon of the PMMA. International Journal of Material Forming, 2010, 3, 575-578.	0.9	3
90	Transition from ductile to brittle failure of sodium silicate glasses: a numerical study. MRS Advances, 2016, 1, 1797-1802.	0.5	3

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91	Numerical study of the influence of tungsten recrystallization on the divertor component lifetime. International Journal of Fracture, 2021, 230, 83.	1.1	3
92	Ã‰tude de traitements mÃ©caniques des surfaces reposant sur des sollicitations de rayure (superfinition, polissage, galetage). Materiaux Et Techniques, 2013, 101, 308.	0.3	3
93	Automotive optoelectronic components submitted to thermal shock: Impact of component architecture on mechanical reliability. Microelectronics Reliability, 2022, 128, 114422.	0.9	3
94	Effect of sliding velocity on friction-induced microstructural evolution in Copper. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012039.	0.3	2
95	Mechanical nano-structuration of a C45 steel under repeated normal impacts. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012019.	0.3	2
96	Modeling the Nitrogen Diffusion Enhancement Resulting from a NanoPeeningÂ® Treatment on a Pure Iron â€“ Influence of the Grain Morphology. Defect and Diffusion Forum, 0, 363, 178-185.	0.4	2
97	Original test device for crack propagation in the weld nugget of advanced high strength steels. Engineering Fracture Mechanics, 2015, 138, 156-168.	2.0	2
98	The Issue of Grain Size Distribution Using Mean Field Models for Dynamic and Post-Dynamic Recrystallization. Materials Science Forum, 2016, 879, 1794-1799.	0.3	2
99	Real-time high-temperature scanning indentation: Probing physical changes in thin-film metallic glasses. Applied Materials Today, 2021, 24, 101126.	2.3	2
100	Grain growth and damages induced by transient heat loads on W. Physica Scripta, 2021, 96, 124032.	1.2	2
101	Correlation between microstructural gradient and microindentation properties of dissimilar weld between INCONELâ€‰625 and Duplex Stainless Steel. Metallurgical Research and Technology, 2020, 117, 407.	0.4	2
102	Influence of Cold Spray Nozzle Displacement Strategy on Microstructure and Mechanical Properties of Cu/SiC Composites Coating. Key Engineering Materials, 2019, 813, 110-115.	0.4	1
103	Controlled single and repeated impact testing for material plastic behaviour characterisation under high strain rates. Strain, 2021, 57, e12399.	1.4	1
104	Identification des propriÃ©tÃ©s mÃ©caniques des surfaces tribologiquement transformÃ©es (TTS) Ã partir des essais de nano-indentation et micro-compression de piliers. Materiaux Et Techniques, 2015, 103, 303.	0.3	1
105	T-REX: numerical tool for tungsten damage assessment for DEMO. Journal of Nuclear Materials, 2022, , 153906.	1.3	1
106	ModÃ©lisation Ã©lastoplastique de la densification des verres de silice sous des sollicitations de contact Ã l'Ã©chelle micromÃ©trique. Mecanique Et Industries, 2008, 9, 145-151.	0.2	0
107	Small scale plastic ï¬‚ow in silica glasses: can we model densiï¬cation?. EPJ Web of Conferences, 2010, 6, 04001.	0.1	0
108	Stresses evolution at high temperature (200Â°C) in Copper/Alumina (Cu/Al<inf>2</inf>O<inf>3</inf>) stack. , 2017, , .		0

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109	Investigation of graded strengthened hyper-deformed surfaces by impact treatment: micro-percussion testing. IOP Conference Series: Materials Science and Engineering, 2017, 194, 012024.	0.3	0
110	LED Failure Localization Method due to Thermal Shock and Residual Stress Impact. , 2018, , .		0
111	Bioclogging in Porous Media: Effect of the Presence of Clay. Indian Geotechnical Journal, 0, , 1.	0.7	0
112	Transformation par forgeage Ã chaud des microstructures lamellaires dâ€™alliages hexagonaux. Materiaux Et Techniques, 2015, 103, 504.	0.3	0
113	Plastic Flow Under Shear-Compression at the Micron Scale-Application on Amorphous Silica at High Strain Rate. Jom, 2022, 74, 2231-2237.	0.9	0