Pierre Olivier Renault

List of Publications by Year in Descending Order

128 papers	1,919 citations	26 h-index	37 g-index
134 ext. papers	2,048 ext. citations	3.4 avg, IF	4.27 L-index

#	Paper	IF	Citations
128	In situ electrical and mechanical study of Indium Tin Oxide films deposited on polyimide substrate by Xe ion beam sputtering. *Thin Solid Films*, **2022**, 741, 139035	2.2	1
127	Strain ratio and thickness effects on plasticity and crack patterns of Nickel thin films. *Scripta Materialia*, **2022**, 213, 114638	5.6	1
126	Film thickness and architecture effects in biaxially strained polymer supported Al/Mo bilayers. *Materials Today Communications*, **2022**, 31, 103455	2.5	1
125	Easy and computer-time-saving implementation of the van der Pauw method including anisotropy and probe positioning correction factors using approximate closed-form analytical functions. *Review of Scientific Instruments*, **2022**, 93, 053907	1.7	0
124	Role of layer order on the equi-biaxial behavior of Al/Mo bilayers. *Scripta Materialia*, **2021**, 194, 113656	5.6	6
123	Viscoplasticity and growth strain parameters identification by full modelling optimization during the high temperature oxidation of Ni28Cr modified by the reactive element yttria or zirconium. *Computational Materials Science*, **2020**, 180, 109689	3.2	2
122	Strain ratio effects in mechanical properties of supported thin films. *Journal of Applied Physics*, **2020**, 127, 105103	2.5	4
121	90° ferroelectric domain switching effect on interfacial strain mediated magnetoelectric coupling. *Journal Physics D: Applied Physics*, **2020**, 53, 145001	3	2
120	Multiscale modeling of the elasto-plastic behavior of architectured and nanostructured Cu-Nb composite wires and comparison with neutron diffraction experiments. *International Journal of Plasticity*, **2019**, 122, 1-30	7.6	13
119	X-ray diffraction and stress relaxations to study thermal and stress-assisted annealings in nanocrystalline gold thin films. *Acta Materialia*, **2019**, 173, 87-95	8.4	3
118	Study of uniaxial deformation behavior of 50 nm-thick thin film of gold single crystal using in situ X-ray pole figure measurements. *Surface and Coatings Technology*, **2019**, 377, 124878	4.4	
117	Elastic property determination of nanostructured W/Cu multilayer films on a flexible substrate. *Acta Mechanica Sinica/Lixue Xuebao*, **2019**, 35, 1210-1216	2	1
116	In situ x-ray diffraction analysis of 2D crack patterning in thin films. *Acta Materialia*, **2019**, 165, 177-182	8.4	13
115	Viscoplastic characteristics of thermally grown chromia films obtained from in situ 2D synchrotron X-ray diffraction. *Journal of Alloys and Compounds*, **2018**, 744, 591-599	5.7	3
114	Strain transfer through film-substrate interface and surface curvature evolution during a tensile test. *Applied Surface Science*, **2018**, 434, 771-780	6.7	11
113	In situ Synchrotron X-Ray diffraction study of high-temperature stress relaxation in chromia scales containing the reactive element yttrium. *Acta Materialia*, **2018**, 159, 276-285	8.4	4
112	Determination of Residual Stresses in an Oxidized Metallic Alloy under Thermal Loadings. *Metals*, **2018**, 8, 913	2.3	3

111	Cyclic testing of thin Ni films on a pre-tensile compliant substrate. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2017**, 695, 112-119	5.3	6
110	Relaxation mechanisms in a gold thin film on a compliant substrate as revealed by X-ray diffraction. *Applied Physics Letters*, **2017**, 110, 211901	3.4	7
109	Continuous cyclic deformations of a Ni/W film studied by synchrotron X-ray diffraction. *Surface and Coatings Technology*, **2017**, 332, 351-357	4.4	5
108	Grain Size Dependence of Elastic Moduli in Nanocrystalline Tungsten. *Journal of Nanomaterials*, **2017**, 2017, 1-6	3.2	14
107	Multiscale modeling of the anisotropic electrical conductivity of architectured and nanostructured Cu-Nb composite wires and experimental comparison. *Acta Materialia*, **2017**, 141, 131-141	8.4	15
106	Frequency analysis for investigation of the thermomechanical mechanisms in thermal oxides growing on metals. *Acta Mechanica*, **2017**, 228, 3595-3617	2.1	4
105	Modelling of the Mechanical Behaviour of a Chromia Forming Alloy Under Thermal Loading. *Oxidation of Metals*, **2017**, 88, 15-27	1.6	2
104	Strains in Thermally Growing Cr2O3 Films Measured In Situ Using Synchrotron X-Rays. *Materials Science Forum*, **2017**, 905, 52-59	0.4	1
103	ITER first mirror mock-ups exposed in Magnum-PSI. *Nuclear Fusion*, **2016**, 56, 066015	3.3	3
102	Nano-structuration effect on the mechanical behavior of gold thin films studied by 2D synchrotron x-ray diffraction. *Surface and Coatings Technology*, **2016**, 308, 418-423	4.4	1
101	Study on Young's modulus of thin films on Kapton by microtensile testing combined with dual DIC system. *Surface and Coatings Technology*, **2016**, 308, 273-279	4.4	23
100	Modeling of Young?s modulus variations with temperature of Ni and oxidized Ni using a magneto-mechanical approach. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2015**, 633, 76-91	5.3	15
99	Peculiar effective elastic anisotropy of nanometric multilayers studied by surface Brillouin scattering. *Superlattices and Microstructures*, **2015**, 88, 551-560	2.8	
98	Machine biaxiale sur la ligne de lumi□re Diffabs pour l□tude des propri□t□s m□caniques de films minces d□pos□s sur substrats polym□res. *Materiaux Et Techniques*, **2015**, 103, 610	0.6	
97	Structure□Diffusion Relationship of Magnetron-Sputtered WTi Barriers Used in Indium Interconnections. *Journal of Electronic Materials*, **2014**, 43, 641-647	1.9	1
96	Hydrogen-induced buckling of gold films. *Journal Physics D: Applied Physics*, **2014**, 47, 025302	3	12
95	Mastering the biaxial stress state in nanometric thin films on flexible substrates. *Applied Surface Science*, **2014**, 306, 70-74	6.7	8
94	In situmonitoring of X-ray strain pole figures of a biaxially deformed ultra-thin film on a flexible substrate. *Journal of Applied Crystallography*, **2014**, 47, 181-187	3.8	10

93	Time-Resolved X-Ray Stress Analysis in Multilayered Thin Films during Continuous Loading: Use of 2D Remote Detection. *Advanced Materials Research*, **2014**, 996, 878-883	0.5	
92	Comparative study of the mechanical properties of nanostructured thin films on stretchable substrates. *Journal of Applied Physics*, **2014**, 116, 093504	2.5	17
91	Real-time curvature and optical spectroscopy monitoring of magnetron-sputtered WTi alloy thin films. *Surface and Coatings Technology*, **2013**, 237, 112-117	4.4	4
90	X-ray elastic strain analysis of compressed Au thin film on polymer substrate. *Surface and Coatings Technology*, **2013**, 215, 322-326	4.4	2
89	Non-equibiaxial deformation of W/Cu nanocomposite thin films on stretchable substrate: Effect of loading path. *Thin Solid Films*, **2013**, 549, 239-244	2.2	2
88	Sin2 analysis in thin films using 2D detectors: Non-linearity due to set-up, stress state and microstructure. *Thin Solid Films*, **2013**, 530, 25-29	2.2	11
87	Yield surface of polycrystalline thin films as revealed by non-equibiaxial loadings at small deformation. *Acta Materialia*, **2013**, 61, 5067-5077	8.4	26
86	Deformation modes of nanostructured thin film under controlled biaxial deformation. *Thin Solid Films*, **2013**, 530, 30-34	2.2	17
85	Effect of oxidation on the elastic properties of ferromagnetic metals. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2013**, 571, 92-94	5.3	4
84	Controlled nanostructuration of polycrystalline tungsten thin films. *Journal of Applied Physics*, **2013**, 113, 174310	2.5	16
83	Structure-stress-resistivity relationship in WTi alloy ultra-thin and thin films prepared by magnetron sputtering. *Journal of Applied Physics*, **2013**, 113, 213504	2.5	6
82	Growth, structure and properties of magnetron sputtered ultra-thin WTi films. *Materials Research Society Symposia Proceedings*, **2013**, 1580, 1		
81	Influence des contraintes rsiduelles et de la texture sur les propri mcaniques de films minces de Cr labors par pulvrisation cathodique RF. *Materiaux Et Techniques*, **2013**, 101, 307	0.6	2
80	Deposition of ultra-thin gold film on in situ loaded polymeric substrate for compression tests. *Materials Letters*, **2012**, 73, 99-102	3.3	8
79	Cu/Nb Nanocomposite Wires Processed by Severe Plastic Deformation for Applications in High Pulsed Magnets: Effects of the Multi-Scale Microstructure on the Mechanical Properties. *IEEE Transactions on Applied Superconductivity*, **2012**, 22, 6900104-6900104	1.8	13
78	Synchrotron X-ray diffraction experiments with a prototype hybrid pixel detector. *Journal of Applied Crystallography*, **2012**, 45, 38-47	3.8	30
77	CuNb Nanocomposite Wires Processed by Severe Plastic Deformation: Effects of the Multi-Scale Microstructure and Internal Stresses on Elastic-Plastic Properties. *Advanced Engineering Materials*, **2012**, 14, 998-1003	3.5	10
76	Microstructure and texture of copper/niobium composites processed by ECAE. *International Journal of Material Forming*, **2012**, 5, 121-127	2	3

75	In situstudy of spin waves in thin films deposited onto compliant substrates submitted to external stresses. *Journal Physics D: Applied Physics*, **2011**, 44, 155002	3	4
74	Time resolved synchrotron x-ray strain measurements of gold thin film on flexible substrate. *Thin Solid Films*, **2011**, 520, 1603-1607	2.2	2
73	In situ thermal residual stress evolution in ultrathin ZnO and Ag films studied by synchrotron x-ray diffraction. *Thin Solid Films*, **2011**, 520, 1390-1394	2.2	5
72	X-ray strain analysis of {111} fiber-textured thin films independent of grain-interaction models. *Journal of Applied Crystallography*, **2011**, 44, 409-413	3.8	4
71	Combined synchrotron X-ray and image-correlation analyses of biaxially deformed W/Cu nanocomposite thin films on Kapton. *Journal of Applied Crystallography*, **2011**, 44, 1071-1079	3.8	32
70	X-ray elastic response of metallic thin film supported by polyimide substrates. *Journal of Strain Analysis for Engineering Design*, **2011**, 46, 639-649	1.3	3
69	Measurement of applied strains in thin films deposited onto polymer by synchrotron X-ray diffraction. *Procedia Engineering*, **2011**, 10, 2701-2706		
68	Copper coverage effect on tungsten crystallites texture development in W/Cu nanocomposite thin films. *Journal of Applied Physics*, **2011**, 109, 014305	2.5	22
67	Thermal Residual Stress Relaxation in Sputtered ZnO Film on (100) Si Substrate Studied In Situ by Synchrotron X-Ray Diffraction. *Materials Science Forum*, **2011**, 681, 127-132	0.4	
66	X-ray strain analysis in thin films enhanced by 2D detection. *EPJ Web of Conferences*, **2010**, 6, 26008	0.3	
65	Development of a synchrotron biaxial tensile device for in situ characterization of thin films mechanical response. *Review of Scientific Instruments*, **2010**, 81, 103903	1.7	43
64	Elastic-strain distribution in metallic film-polymer substrate composites. *Applied Physics Letters*, **2010**, 96, 041905	3.4	31
63	Effect of spraying distance on the microstructure and mechanical properties of a Colmonoy 88 alloy deposited by HVOF thermal spraying. *Surface and Coatings Technology*, **2010**, 205, 1799-1806	4.4	21
62	Microstructure and texture of copper/niobium composites processed by ECAE. *International Journal of Material Forming*, **2010**, 3, 1071-1074	2	3
61	Nitrogen interstitial induced texture depth gradient in stainless steel. *Scripta Materialia*, **2010**, 63, 496-499	3.6	15
60	X-ray diffraction analysis of thermally-induced stress relaxation in ZnO films deposited by magnetron sputtering on (100) Si substrates. *Thin Solid Films*, **2010**, 518, 5237-5241	2.2	10
59	X-ray diffraction study of thermal stress relaxation in ZnO films deposited by magnetron sputtering. *Thin Solid Films*, **2010**, 519, 1563-1567	2.2	13
58	On lattice plane rotation and crystallographic structure of the expanded austenite in plasma nitrided AISI 316L steel. *Surface and Coatings Technology*, **2010**, 204, 2551-2558	4.4	63

57	Controlled biaxial deformation of nanostructured W/Cu thin films studied by X-ray diffraction. *Surface and Coatings Technology*, **2010**, 205, 1420-1425	4.4	7
56	Elastic anisotropy of polycrystalline Au films: Modeling and respective contributions of X-ray diffraction, nanoindentation and Brillouin light scattering. *Acta Materialia*, **2010**, 58, 4998-5008	8.4	35
55	Thermal stability of nanocomposite metals: In situ observation of anomalous residual stress relaxation during annealing under synchrotron radiation. *Acta Materialia*, **2010**, 58, 6504-6512	8.4	27
54	In situ x-ray diffraction investigation on early stages of oxidation at 900 °C of TiAl dipped in a phosphoric acid solution. *Journal of Applied Physics*, **2009**, 106, 103502	2.5	1
53	Plasticity of nanostructured CuNb-based wires: Strengthening mechanisms revealed by in situ deformation under neutrons. *Scripta Materialia*, **2009**, 60, 171-174	5.6	41
52	In situdiffraction strain analysis of elastically deformed polycrystalline thin films, and micromechanical interpretation. *Journal of Applied Crystallography*, **2009**, 42, 1073-1084	3.8	39
51	A new criterion for elasto-plastic transition in nanomaterials: Application to size and composite effects on CuNb nanocomposite wires. *Acta Materialia*, **2009**, 57, 3157-3169	8.4	88
50	Transmission electron microscopy and X-ray diffraction study of microstructural evolution in magnetoresistive CuFeNi ribbons. *Philosophical Magazine*, **2008**, 88, 1345-1356	1.6	6
49	Size effects on the Mechanical Behavior of Nanometric W/Cu Multilayers. *Materials Research Society Symposia Proceedings*, **2008**, 1086, 1		3
48	Small scale mechanical properties of polycrystalline materials: in situ diffraction studies. *International Journal of Nanotechnology*, **2008**, 5, 609	1.5	4
47	Benefits of two-dimensional detectors for synchrotron X-ray diffraction studies of thin film mechanical behavior. *Journal of Applied Crystallography*, **2008**, 41, 1076-1088	3.8	14
46	Relation between residual stresses and microstructure in Mo(Cr) thin films elaborated by ionized magnetron sputtering. *Surface and Coatings Technology*, **2008**, 202, 2247-2251	4.4	7
45	Characterization and residual stresses of WCCo thermally sprayed coatings. *Surface and Coatings Technology*, **2008**, 202, 4560-4565	4.4	67
44	Oscillating composition of FeW alloy thin films grown by magnetron co-sputtering. *Surface and Coatings Technology*, **2007**, 201, 7115-7121	4.4	14
43	Characterization and modelling of the elastic properties of nano-structured W/Cu multilayers. *Thin Solid Films*, **2007**, 516, 320-324	2.2	9
42	Plastic deformation of silicon between 20 °C and 425 °C. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2007**, 4, 3110-3114		25
41	XRD measurement of thermal strain in InSb-based devices. *Physica Status Solidi (A) Applications and Materials Science*, **2007**, 204, 1041-1046	1.6	5
40	Mechanical Properties of Thin Films and Nanometric Multilayers Using Tensile Testing and Synchrotron X-Ray Diffraction. *Plasma Processes and Polymers*, **2007**, 4, 311-317	3.4	3

39	Cu nanowhiskers embedded in Nb nanotubes inside a multiscale Cu matrix: The way to reach extreme mechanical properties in high strength conductors. *Scripta Materialia*, **2007**, 57, 245-248	5.6	23
38	Evidence of internal Bauschinger test in nanocomposite wires during in situ macroscopic tensile cycling under synchrotron beam. *Applied Physics Letters*, **2007**, 90, 241907	3.4	24
37	D-77 Elastic Properties of Metallic Thin Films: 2D Synchrotron XRD Analysis and in Situ Tensile Testing. *Powder Diffraction*, **2007**, 22, 189-189	1.8	
36	X-ray Diffraction Study of the Mechanical Elastic Properties of Nanometric W/Cu Multilayers. *Materials Research Society Symposia Proceedings*, **2006**, 977, 1		
35	Elastic behavior of polycrystalline thin films inferred from in situ micromechanical testing and modeling. *Applied Physics Letters*, **2006**, 89, 061911	3.4	16
34	Plasticity of multiscale nanofilamentary CuNb composite wires during in situ neutron diffraction: Codeformation and size effect. *Applied Physics Letters*, **2006**, 88, 191906	3.4	49
33	Effects of size and geometry on the plasticity of high-strength copper/tantalum nanofilamentary conductors obtained by severe plastic deformation. *Acta Materialia*, **2006**, 54, 1063-1075	8.4	33
32	Study of texture effect on elastic properties of Au thin films by X-ray diffraction and in situ tensile testing. *Acta Materialia*, **2006**, 54, 4503-4513	8.4	62
31	X-ray diffraction analysis of the structure and residual stresses of W/Cu multilayers. *Surface and Coatings Technology*, **2006**, 201, 4372-4376	4.4	27
30	Elastic properties of polycrystalline gold thin films: Simulation and X-ray diffraction experiments. *Surface and Coatings Technology*, **2006**, 201, 4300-4304	4.4	7
29	Stress heterogeneity of thermally grown polycrystalline nickel oxide layers. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **2005**, 395, 22-26	5.3	4
28	Determination of elastic constants of a fiber-textured gold film by combining synchrotron x-ray diffraction and in situ tensile testing. *Journal of Applied Physics*, **2005**, 98, 093511	2.5	25
27	Elastic constants investigation by X-ray diffraction of in situ deformed metallic multi-layers. *Scripta Materialia*, **2004**, 50, 723-727	5.6	23
26	Atomistic calculation of size effects on elastic coefficients in nanometre-sized tungsten layers and wires. *Scripta Materialia*, **2004**, 50, 1247-1251	5.6	77
25	TEM study of the indentation behaviour of thin Au film on GaAs. *Thin Solid Films*, **2004**, 460, 150-155	2.2	5
24	Measurement of thin film elastic constants by X-ray diffraction. *Thin Solid Films*, **2004**, 469-470, 201-205	2.2	21
23	X-ray diffraction analysis of texture modification induced by ion beam irradiation in stainless steel films. *Applied Surface Science*, **2004**, 228, 151-157	6.7	3
22	Damage mode tensile testing of thin gold films on polyimide substrates by X-ray diffraction and atomic force microscopy. *Thin Solid Films*, **2003**, 424, 267-273	2.2	37

21	Study of stress effects in the oxidation of phosphated iron: in situ measurement by diffraction of synchrotron radiation. *Applied Surface Science*, **2003**, 206, 149-158	6.7	11
20	Iron oxidation under the influence of phosphate thin films. *Journal of Applied Physics*, **2003**, 94, 784-788	2.5	28
19	Measurement of the elastic constants of textured anisotropic thin films from x-ray diffraction data. *Applied Physics Letters*, **2003**, 83, 473-475	3.4	48
18	X-ray Diffraction Study of Thin Film Elastic Properties. *Advanced Engineering Materials*, **2002**, 4, 554-557	3.5	
17	Structural characterisation of phosphated iron oxidised at 400 °C. *Surface and Coatings Technology*, **2002**, 161, 144-149	4.4	10
16	X-Ray diffraction measurement of the Poisson's ratio in Mo sublayers of Ni/Mo multilayers. *Thin Solid Films*, **2002**, 406, 185-189	2.2	17
15	Size effect on intragranular elastic constants in thin tungsten films. *Applied Physics Letters*, **2002**, 81, 4365-4367	3.4	68
14	Measuring thin film and multilayer elastic constants by coupling in situ tensile testing with x-ray diffraction. *Applied Physics Letters*, **2002**, 80, 4705-4707	3.4	69
13	Tribological behavior and surface analysis of magnetized sliding contact XC 48 steel/XC 48 steel. *Wear*, **2001**, 250, 470-476	3.5	26
12	Characterization of thin film elastic properties using X-ray diffraction and mechanical methods: application to polycrystalline stainless steel. *Thin Solid Films*, **2001**, 398-399, 496-500	2.2	28
11	An experimental method for measuring the Poisson's ratio in thin films and multilayers using a tensile machine set up on an X-ray goniometer. *EPJ Applied Physics*, **2000**, 10, 91-96	1.1	8
10	Oxidation of phosphated iron powders. *Thin Solid Films*, **2000**, 379, 139-146	2.2	42
9	Influence of extended structural defects on the effective carrier concentration of p-type Hg0.78Cd0.22Te implanted with aluminium ions. *Nuclear Instruments & Methods in Physics Research B*, **2000**, 168, 40-46	1.2	3
8	Microstructural investigations of Y2O3 thin films deposited by laser ablation on MgO. *Applied Physics A: Materials Science and Processing*, **2000**, 71, 675-680	2.6	9
7	Elaboration and compressibility behavior of nanostructured SiC. *Scripta Materialia*, **1998**, 10, 25-34		3
6	Poisson ratio measurement in tungsten thin films combining an x-ray diffractometer with in situ tensile tester. *Applied Physics Letters*, **1998**, 73, 1952-1954	3.4	53
5	Ion implantation-reduced diffusion length in HgCdTe. *EPJ Applied Physics*, **1998**, 2, 223-226	1.1	
4	Study of damage induced by room-temperature Al ion implantation in Hg0.8Cd0.2Te by x-ray diffuse scattering. *Journal of Applied Physics*, **1997**, 82, 609-616	2.5	9

3	Characterization by diffuse X-ray scattering of damage in ion-implanted HgCdTe. *Journal of Crystal Growth*, **1996**, 161, 139-143	1.6	7
2	Implantation-induced defects in Hg0.78Cd0.22Te studied using slow positrons. *Journal of Physics Condensed Matter*, **1995**, 7, 8529-8538	1.8	6
1	Properties of Dislocations in HgCdTe Crystals. *Journal De Physique III*, **1995**, 5, 1383-1389		5