

# JÃ©rÃ©me Colin

## List of Publications by Year in descending order

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114  
papers

928  
citations

566801

15  
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580395

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114  
all docs

114  
docs citations

114  
times ranked

595  
citing authors

#	ARTICLE	IF	CITATIONS
1	Grain boundary-induced plasticity during thin film buckling. <i>Mechanics of Materials</i> , 2021, 155, 103761.	1.7	4
2	Formation of Two Edge Dislocations in a Grain Due to Interface Disclination Dipoles. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2021, 88, .	1.1	0
3	Dislocation emission and crack propagation during thin film buckling on substrate. <i>International Journal of Solids and Structures</i> , 2020, 185-186, 202-211.	1.3	3
4	Formation of prismatic dislocation loops in a spherical particle embedded in a semi-infinite matrix. <i>International Journal of Solids and Structures</i> , 2020, 203, 17-22.	1.3	0
5	Layer wrinkling in an inhomogeneous matrix. <i>International Journal of Solids and Structures</i> , 2019, 156-157, 119-125.	1.3	7
6	Influence of interface steps on the buckle delamination of thin films. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 132, 103698.	2.3	6
7	Dislocation formation from the free-surface of a two-phase solid. <i>Mechanics of Materials</i> , 2019, 137, 103094.	1.7	1
8	Dislocation emission from a cylindrical circular void separating two disclination dipoles in a high-angle grain boundary. <i>Acta Mechanica</i> , 2019, 230, 2645-2654.	1.1	0
9	Motion of crystalline inclusions by interface diffusion in the proximity of free surfaces. <i>Journal of Nanoparticle Research</i> , 2019, 21, 1.	0.8	1
10	Stiffness Contrast and Separation Influence Wrinkling of Adjacent Layers in a Homogeneous Matrix. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2019, 86, .	1.1	6
11	Dislocation Formation From a Polycrystal Free-Surface. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2019, 86, .	1.1	2
12	Slip trace-induced terrace erosion. <i>Applied Surface Science</i> , 2019, 466, 454-458.	3.1	0
13	Equilibrium shapes of coherent precipitates near a surface. <i>Mechanics of Materials</i> , 2018, 117, 22-31.	1.7	1
14	Elastic interaction between dislocations and a cavity embedded in a biaxially stressed solid. <i>Acta Mechanica</i> , 2018, 229, 4945-4952.	1.1	1
15	Effect of stress and interface kinetics on the growth of a cylinder of ternary alloy in contact with its melt. <i>Journal of Crystal Growth</i> , 2018, 493, 76-83.	0.7	2
16	Dislocation formation from one inclined free-surface of a buried layer in a matrix. <i>International Journal of Solids and Structures</i> , 2018, 144-145, 213-217.	1.3	0
17	Dislocation-based description of the sliding of a free-surface emerging grain boundary. <i>Acta Mechanica</i> , 2018, 229, 3215-3222.	1.1	2
18	Circular-to-elliptical-to-circular shape transitions of strained islands. <i>Thin Solid Films</i> , 2017, 631, 189-192.	0.8	0

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19	Cuboidal-to-pyramidal shape transition of a strained island on a substrate. <i>Surface Science</i> , 2017, 664, 168-171.	0.8	0
20	Dynamic Instability of Two Elastic Half-Spaces Sliding With a Rate-and-State Friction Constitutive Law. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016, 83, .	1.1	2
21	Morphological instability of a solid sphere of dilute ternary alloy growing by diffusion from its melt. <i>Journal of Crystal Growth</i> , 2016, 448, 17-20.	0.7	7
22	Slip-trace-induced vicinal step destabilization. <i>Physical Review B</i> , 2016, 93, .	1.1	4
23	Fracture Formation in Axisymmetrical Layered Materials. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016, 83, .	1.1	0
24	Formation of a Prismatic Dislocation Loop in the Interface of a Circular Cylindrical Inclusion Embedded in a Thin Slab. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016, 83, .	1.1	3
25	Effect of interface plasticity on circular blisters. <i>Scripta Materialia</i> , 2016, 113, 222-225.	2.6	5
26	Generation of a dipole of misfit dislocations in an axisymmetrical precipitate embedded in a semi-infinite matrix. <i>International Journal of Solids and Structures</i> , 2016, 82, 9-15.	1.3	3
27	Equilibrium positions of misfit dislocations in a nanolayer embedded in a matrix. <i>International Journal of Solids and Structures</i> , 2016, 81, 393-398.	1.3	2
28	Effect of plasticity and atmospheric pressure on the formation of donut- and croissantlike buckles. <i>Physical Review E</i> , 2015, 91, 012410.	0.8	16
29	Morphological Instability of a Transversally Isotropic Solid Cylinder Under Stress. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2015, 82, .	1.1	0
30	Dislocation formation in the partially coherent interfaces of an embedded layer in a semi-infinite matrix. <i>Philosophical Magazine Letters</i> , 2015, 95, 152-160.	0.5	2
31	Circular dislocation loop in a three-layer nanowire. <i>International Journal of Solids and Structures</i> , 2015, 63, 114-120.	1.3	7
32	Atomic reconstruction of niobium (111) surfaces. <i>Surface Science</i> , 2015, 632, 60-63.	0.8	6
33	Redeposition of a straight-sided buckle under pressure. <i>Physical Review E</i> , 2014, 89, 032410.	0.8	5
34	Misfit dislocation formation in stressed nanofilms. <i>Philosophical Magazine Letters</i> , 2014, 94, 189-197.	0.5	1
35	Island formation on a sawtooth patterned substrate. <i>Europhysics Letters</i> , 2014, 107, 26002.	0.7	3
36	Morphological instability of a stressed solid cylinder in the solidification and melting regimes. <i>Journal of Crystal Growth</i> , 2014, 402, 113-118.	0.7	2

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37	On the Dissolution of the $\beta$ Phase at the Dendritic Scale in a Rhenium-Containing Nickel-Based Single Crystal Superalloy After High Temperature Exposure. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 2031-2040.	1.1	9
38	Buckling-induced dislocation emission in thin films on substrates. International Journal of Solids and Structures, 2013, 50, 3717-3722.	1.3	7
39	Size selection of strained islands during Stranski-Krastanov growth. Thin Solid Films, 2013, 536, 187-190.	0.8	0
40	Interface step-induced thin-film delamination and buckling. Acta Materialia, 2013, 61, 4429-4438.	3.8	11
41	Understanding the buckling phenomenon of thin films and coatings. , 2013, , .		0
42	Kinetic evolution of blistering in hydrogen-implanted silicon. Applied Physics Letters, 2013, 103, .	1.5	13
43	Formation of strained ring-shaped islands around square notches. Journal of Physics Condensed Matter, 2012, 24, 225007.	0.7	1
44	Delamination of strained multilayered nanowires. Applied Physics Letters, 2012, 101, 121911.	1.5	2
45	Shape evolution of a core-shell spherical particle under hydrostatic pressure. Physical Review E, 2012, 85, 032601.	0.8	1
46	Bistability of bilayer islands under anisotropic misfit stress. Surface Science, 2012, 606, 825-829.	0.8	1
47	Validation by asymptotic development of the empirical bulge test formula. Surface and Coatings Technology, 2012, 207, 218-220.	2.2	1
48	Gliding at interface during thin film buckling: A coupled atomistic/elastic approach. Acta Materialia, 2012, 60, 1259-1267.	3.8	15
49	Effects of sliding on interface delamination during thin film buckling. Scripta Materialia, 2012, 67, 157-160.	2.6	15
50	About the internal pressure in cavities derived from implantation-induced blistering in semi-conductors. Journal of Applied Physics, 2011, 110, .	1.1	9
51	A new peeling mechanism of blisters involving surface diffusion. Scripta Materialia, 2011, 65, 672-674.	2.6	1
52	Effect of misfit stress on the equilibrium shape of a bilayer island. Physical Review B, 2011, 83, .	1.1	1
53	Evidence of vacuum between buckled films and their substrates. Thin Solid Films, 2010, 518, 5233-5236.	0.8	12
54	Prismatic dislocation loops in strained core-shell nanowire heterostructures. Physical Review B, 2010, 82, .	1.1	24

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55	Buckling of Stressed and Pressurized Thin Films on Substrates. Journal of Applied Mechanics, Transactions ASME, 2010, 77, .	1.1	9
56	A stress relaxation mechanism through buckling-induced dislocations in thin films. Journal of Applied Physics, 2010, 108, 026104.	1.1	4
57	Effect of pressure and stress on blistering induced by hydrogen implantation in silicon. Europhysics Letters, 2010, 92, 16001.	0.7	14
58	Meandering of monolayer stripes under electromigration. Physical Review E, 2009, 79, 012601.	0.8	1
59	Effect of stress on the growth of concentric grains and pores embedded in a binary alloy matrix. Physical Review B, 2009, 79, .	1.1	0
60	Morphological instability of epitaxially stressed quantum rings. Europhysics Letters, 2009, 88, 56002.	0.7	1
61	Stress-induced destabilization of solidification and melting fronts. Acta Materialia, 2009, 57, 1454-1458.	3.8	2
62	Buckling patterns of gold thin films on silicon substrates: Formation of superimposed blisters. Europhysics Letters, 2009, 86, 54002.	0.7	7
63	Investigating the secondary buckling of thin films with a model based on elastic rods with hinges. Journal of Mechanics of Materials and Structures, 2009, 4, 121-138.	0.4	3
64	Molecular dynamics simulations of buckling-induced plasticity. Applied Physics Letters, 2008, 93, .	1.5	16
65	Buckling and cracking of $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle mml:mrow \rangle \langle mml:msub \rangle \langle mml:mtext \rangle Y \langle /mml:mtext \rangle \langle mml:mn \rangle 2 \langle /mml:mn \rangle \langle /mml:msub \rangle \langle mml:mrow \rangle \langle mml:mtext \rangle$ films at grain boundaries. Physical Review B, 2008, 78, .	1.5	16
66	On the Surface Stability of a Spherical Void Embedded in a Stressed Matrix. Journal of Applied Mechanics, Transactions ASME, 2007, 74, 8-12.	1.1	3
67	Spatially localized instability of a biaxially stressed solid and formation of island patterns. Europhysics Letters, 2007, 77, 26002.	0.7	1
68	Effect of stress on the diffusion-controlled dissolution of a spherical particle. Physical Review E, 2007, 75, 020601.	0.8	0
69	Plastic Folding of Buckling Structures. Physical Review Letters, 2007, 99, 046101.	2.9	45
70	Non-linear elastic effects in plasticity: $\{100\}$ dislocation gliding in aluminum-based alloy. Europhysics Letters, 2007, 78, 16002.	0.7	3
71	Post-flambage unilatÃ©ral des films minces sur substrat. European Journal of Computational Mechanics, 2007, 16, 941-955.	0.6	0
72	Morphological instability of two stressed spherical shells. International Journal of Solids and Structures, 2007, 44, 3218-3230.	1.3	7

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73	How Does Crystalline Substrate Plasticity Modify Thin Film Buckling?. Physical Review Letters, 2006, 97, 096101.	2.9	29
74	How would nanostructures emerge in stressed multilayers?. Europhysics Letters, 2006, 75, 455-460.	0.7	0
75	Stability diagram of unilateral buckling patterns of strip-delaminated films. Physical Review E, 2006, 74, 066601.	0.8	58
76	Mechanical behaviour of metallic thin films on polymeric substrates and the effect of ion beam assistance on crack propagation. Acta Materialia, 2005, 53, 411-417.	3.8	32
77	Effect of substrate compliance on the global unilateral post-buckling of coatings: AFM observations and finite element calculations. Acta Materialia, 2005, 53, 441-447.	3.8	75
78	Stress heterogeneity of thermally grown polycrystalline nickel oxide layers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 395, 22-26.	2.6	5
79	Pinch off of nanopipes under electron irradiation in GaN. Applied Physics Letters, 2005, 86, 131908.	1.5	12
80	Snapthrough occurring in the postbuckling of thin films. Applied Physics Letters, 2005, 86, 081905.	1.5	13
81	Morphological instability of stressed spherical particles growing by diffusion in a matrix. Physical Review B, 2005, 71, .	1.1	6
82	Strain mapping on gold thin film buckling and silicon blistering. Materials Research Society Symposia Proceedings, 2005, 875, 1.	0.1	2
83	Morphological instability and contraction of a rectangular plate under stress. EPJ Applied Physics, 2005, 29, 143-151.	0.3	0
84	Nonlinear Effects of the Stress Driven Rearrangement Instability of Solid Free Surfaces. Journal of Elasticity, 2004, 77, 177-185.	0.9	4
85	Evidence of plastic damage in thin films around buckling structures. Thin Solid Films, 2004, 469-470, 221-226.	0.8	18
86	Buckling and post-buckling of stressed straight-sided wrinkles: experimental AFM observations of bubbles formation and finite element simulations. Acta Materialia, 2004, 52, 3959-3966.	3.8	45
87	Morphological instabilities of stressed axi-symmetrical structures embedded in a matrix: volume diffusion approach. Acta Materialia, 2004, 52, 4985-4995.	3.8	11
88	Atomic force microscopy observations of successive damaging mechanisms of thin films on substrates under tensile stress. Thin Solid Films, 2003, 429, 267-272.	0.8	22
89	Buckling pattern with rings: Evidence of plastic damage in thin films. Philosophical Magazine Letters, 2003, 83, 453-457.	0.5	3
90	Damaging of a soft substrate by cracks propagation through its hard coating: AFM observations and finite element simulation. EPJ Applied Physics, 2003, 22, 15-19.	0.3	3

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91	Buckling of Thin Films on Substrates: From Straight-Sided Wrinkles to Both Worm-Like and Varicose Structures. Materials Research Society Symposia Proceedings, 2002, 749, 1.	0.1	0
92	Free surface deformation of irradiated thin slabs. EPJ Applied Physics, 2002, 20, 15-21.	0.3	0
93	Stability of wrinkling patterns: from straight-sided to worm-like structures. EPJ Applied Physics, 2002, 17, 173-178.	0.3	6
94	Surface instability and delamination of epitaxially stressed bilayers. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2002, 82, 2609-2621.	0.8	2
95	Delamination of metal thin films on polymer substrates: From straight-sided blisters to varicose structures. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2002, 82, 633-641.	0.8	24
96	Dipole of misfit dislocations in axially symmetric structures. Philosophical Magazine Letters, 2002, 82, 125-132.	0.5	15
97	Free-surface deformation of irradiated solids. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2001, 81, 857-866.	0.8	9
98	Thermodynamic approach of surface instability under irradiation. Acta Materialia, 2001, 49, 3711-3718.	3.8	0
99	Interactive study of straight-sided buckling patterns in thin films under compressive stress. EPJ Applied Physics, 2000, 10, 3-7.	0.3	16
100	Worm-like delamination patterns of thin stainless steel films on polycarbonate substrates. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2000, 80, 2559-2565.	0.8	33
101	Island formation by stress induced diffusion on the surface of a very thin layer epitaxially stressed on a substrate. European Physical Journal Special Topics, 2000, 10, Pr6-65-Pr6-69.	0.2	0
102	Mechanical behaviour of thin films on substrates : Debonding and buckling. European Physical Journal Special Topics, 2000, 10, Pr6-47-Pr6-52.	0.2	0
103	Pop-in phenomenon during nanoindentation in MgO. EPJ Applied Physics, 1999, 8, 123-128.	0.3	27
104	High-speed photorefractive joint transform correlator using nonlinear filters. Journal of Optics, 1999, 1, 283-285.	1.5	6
105	Nano-undulations of nickel thin films on a substrate under compressive stress. Philosophical Magazine Letters, 1999, 79, 497-501.	0.5	2
106	Interface instability in the drawing process of copper/tantalum conductors. Acta Materialia, 1999, 47, 853-857.	3.8	27
107	Axial and radial interface instabilities of copper/tantalum cylindrical conductors. Acta Materialia, 1999, 47, 2761-2768.	3.8	7
108	Electromigration in Al thin films induced by surface acoustic waves: application to imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 1999, 46, 856-860.	1.7	6

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109	Transformation of a cubic precipitate to a butterfly shape due to localized instabilities. Acta Materialia, 1998, 46, 1249-1255.	3.8	8
110	Localized Surface Instabilities of Stressed Solids. Materials Research Society Symposia Proceedings, 1998, 529, 27.	0.1	0
111	Localized surface instability of a non-homogeneously stressed solid. Europhysics Letters, 1997, 38, 307-312.	0.7	5
112	Adhesion increase by interface mixing. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1997, 75, 369-377.	0.8	12
113	Morphological instabilities of a stressed pore channel. Acta Materialia, 1997, 45, 3835-3841.	3.8	17
114	Surface instabilities of a stressed cylindrical whisker. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1997, 76, 793-805.	0.8	15