

# Odile Robach

## List of Publications by Year in descending order

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all docs

82  
docs citations

82  
times ranked

2286  
citing authors

#	ARTICLE	IF	CITATIONS
1	Structure and Reactivity of Surface Oxides on Pt(110) during Catalytic CO Oxidation. Physical Review Letters, 2005, 95, 255505.	7.8	327
2	Size and Catalytic Activity of Supported Gold Nanoparticles: An in Operando Study during CO Oxidation. Journal of Physical Chemistry C, 2011, 115, 4673-4679.	3.1	132
3	Structure and morphology of the Ag/MgO(001) interface during in situ growth at room temperature. Physical Review B, 1999, 60, 5858-5871.	3.2	103
4	Very-high-quality MgO(001) surfaces: roughness, rumpling and relaxation. Surface Science, 1998, 401, 227-235.	1.9	97
5	A new white beam x-ray microdiffraction setup on the BM32 beamline at the European Synchrotron Radiation Facility. Review of Scientific Instruments, 2011, 82, 033908.	1.3	78
6	Growth, structure, and morphology of the Pd/MgO(001) interface: Epitaxial site and interfacial distance. Physical Review B, 1999, 60, 5872-5882.	3.2	74
7	A new UHV diffractometer for surface structure and real time molecular beam deposition studies with synchrotron radiations at ESRF. Nuclear Instruments & Methods in Physics Research B, 1999, 149, 213-227.	1.4	58
8	Strain and Shape of Epitaxial InAs/InP Nanowire Superlattice Measured by Grazing Incidence X-ray Techniques. Nano Letters, 2007, 7, 2596-2601.	9.1	57
9	Adsorption of Carbon Monoxide on Ni(110) Above Atmospheric Pressure Investigated with Surface X-Ray Diffraction. Physical Review Letters, 2001, 86, 5325-5328.	7.8	48
10	Corrections for surface X-ray diffraction measurements using the $\chi$ -axis geometry: finite size effects in direct and reciprocal space. Journal of Applied Crystallography, 2000, 33, 1006-1018.	4.5	47
11	Surface x-ray structure analysis of periodic misfit dislocations in Fe/W(110). Physical Review B, 2003, 68, .	3.2	41
12	Magnetic anisotropy of ultrathin cobalt films on Pt(111) investigated with x-ray diffraction: Effect of atomic mixing at the interface. Physical Review B, 2002, 65, .	3.2	38
13	In situ bending of an Au nanowire monitored by micro Laue diffraction. Journal of Applied Crystallography, 2015, 48, 291-296.	4.5	34
14	Hydrogenation of carbon monoxide on Ni(111) investigated with surface X-ray diffraction at atmospheric pressure. Surface Science, 2004, 557, 21-30.	1.9	33
15	Pd <sub>8</sub> Ni <sub>92</sub> (110) surface structure from surface X-ray diffraction. Surface evolution under hydrogen and butadiene reactants at elevated pressure. Surface Science, 2005, 587, 229-235.	1.9	32
16	Growth, annealing and oxidation of the Ni/MgO (001) interface studied by grazing incidence x-ray scattering. Journal of Applied Physics, 1998, 84, 4259-4267.	2.5	31
17	On the Accuracy of Elastic Strain Field Measurements by Laue Microdiffraction and High-Resolution EBSD: a Cross-Validation Experiment. Experimental Mechanics, 2016, 56, 483-492.	2.0	31
18	Full local elastic strain tensor from Laue microdiffraction: simultaneous Laue pattern and spot energy measurement. Journal of Applied Crystallography, 2011, 44, 688-696.	4.5	30

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19	Compressibility of CO adsorbed on Ni from $10^{-6}$ mbar to 1.2 bar ambient CO pressures investigated with X-ray diffraction. <i>Surface Science</i> , 2003, 522, 161-166.	1.9	27
20	A tunable multicolour 'rainbow' filter for improved stress and dislocation density field mapping in polycrystals using X-ray Laue microdiffraction. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2013, 69, 164-170.	0.3	27
21	Layer relaxation and intermixing in Fe-Cu(001) studied by surface x-ray diffraction. <i>Physical Review B</i> , 2005, 71, .	3.2	26
22	Catalytic properties of supported gold nanoparticles: new insights into the size-activity relationship gained from in operando measurements. <i>Faraday Discussions</i> , 2011, 152, 253.	3.2	23
23	Laue-DIC: a new method for improved stress field measurements at the micrometer scale. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 980-994.	2.4	23
24	Structural and magnetic properties of bcc Co films on Pt(001) studied by magnetic resonant surface x-ray diffraction, STM, and magneto-optical Kerr effect. <i>Physical Review B</i> , 2004, 70, .	3.2	22
25	Evidence of 3D strain gradients associated with tin whisker growth. <i>Scripta Materialia</i> , 2018, 144, 1-4.	5.2	21
26	Ni-induced giant stress and surface relaxation in W(110). <i>Physical Review B</i> , 2003, 67, .	3.2	19
27	Stress and structure of $c(2\sqrt{2}) \times p2gg(4\sqrt{2})$ Mn-Cu(001) surface alloys. <i>Physical Review B</i> , 2005, 71, .	3.2	19
28	Local band bending and grain-to-grain interaction induced strain nonuniformity in polycrystalline CdTe films. <i>Physical Review B</i> , 2014, 89, .	3.2	19
29	Spin Reorientation and Structural Relaxation of Atomic Layers: Pushing the Limits of Accuracy. <i>Physical Review Letters</i> , 2004, 93, 156105.	7.8	18
30	Asymmetric grazing incidence small angle x-ray scattering and anisotropic domain wall motion in obliquely grown nanocrystalline Co films. <i>Nanotechnology</i> , 2014, 25, 335704.	2.6	18
31	Lattice strain and tilt mapping in stressed Ge microstructures using X-ray Laue micro-diffraction and rainbow filtering. <i>Journal of Applied Crystallography</i> , 2016, 49, 1402-1411.	4.5	17
32	The Nature and Origin of 'Double Expanded Austenite' in Ni-Based Ni-Ti Alloys Developing Upon Low Temperature Gaseous Nitriding. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 4115-4131.	2.2	16
33	Structure and Pt magnetism of FePt nanoparticles investigated with X-ray diffraction. <i>Journal of Magnetism and Magnetic Materials</i> , 2003, 264, 202-208.	2.3	15
34	What can we learn on the structure and morphology of metal oxide/metal interfaces by measurement of X-ray crystal truncation rods in situ, during growth. <i>Faraday Discussions</i> , 1999, 114, 157-172.	3.2	13
35	Looking by grazing incidence small angle x-ray scattering at gold nanoparticles supported on rutile TiO <sub>2</sub> (110) during CO oxidation. <i>Gold Bulletin</i> , 2008, 41, 159-166.	2.7	13
36	In Situ Grazing Incidence X-ray Scattering Study of the Epitaxial Growth of Ag on MgO(001). <i>Surface Review and Letters</i> , 1998, 05, 359-362.	1.1	12

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37	Analysis of the full stress tensor in a micropillar: Ability of and difficulties arising during synchrotron based $\frac{1}{4}$ Laue diffraction. <i>Materials and Design</i> , 2016, 108, 68-75.	7.0	12
38	Stacking reversal as a source of perpendicular magnetic anisotropy in Ni-Pt multilayers. <i>Physical Review B</i> , 2003, 67, .	3.2	11
39	Combining Laue Microdiffraction and Digital Image Correlation for Improved Measurements of the Elastic Strain Field with Micrometer Spatial Resolution. <i>Procedia IUTAM</i> , 2012, 4, 133-143.	1.2	11
40	KB scanning of X-ray beam for Laue microdiffraction on accelero-phobic samples: application to <i>in situ</i> mechanically loaded nanowires. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 1395-1400.	2.4	10
41	<i>in-situ</i> observation of stress-induced stochastic twin boundary motion in off stoichiometric NiMnGa single crystals. <i>Applied Physics Letters</i> , 2013, 103, 021909.	3.3	9
42	Integrated experimental and computational approach for residual stress investigation near through-silicon vias. <i>Journal of Applied Physics</i> , 2016, 120, 195104.	2.5	9
43	Oxygen-Induced Changes of the Au <sub>30</sub> Pd <sub>70</sub> (110) Surface Structure and Composition under Increasing O <sub>2</sub> Pressure. <i>Journal of Physical Chemistry C</i> , 2018, 122, 22588-22596.	3.1	9
44	Low-temperature growth favours hcp structure, flatness and perpendicular magnetic anisotropy of thin (1â€“5 nm) Co films on Pt(111). <i>Journal of Physics Condensed Matter</i> , 2005, 17, 5551-5561.	1.8	8
45	X-ray $\frac{1}{4}$ Laue diffraction analysis of Cu through-silicon vias: A two-dimensional and three-dimensional study. <i>Journal of Applied Physics</i> , 2014, 116, 163509.	2.5	8
46	The interaction of gas molecules at atmospheric pressures with surfaces investigated with surface X-ray diffraction. <i>Surface Science</i> , 2001, 482-485, 101-106.	1.9	7
47	Ultrathin Pt films on Ni(111): Structure determined by surface x-ray diffraction. <i>Physical Review B</i> , 2003, 68, .	3.2	7
48	Direct measurement of local constitutive relations, at the micrometre scale, in bulk metallic alloys. <i>Journal of Applied Crystallography</i> , 2017, 50, 940-948.	4.5	7
49	Influence of Palladium on the Ordering, Final Size, and Composition of Pdâ€“Au Nanoparticle Arrays. <i>Journal of Physical Chemistry C</i> , 2017, 121, 25864-25874.	3.1	7
50	Thickness-related instability of Cu thin films on Ag(100). <i>Physica B: Condensed Matter</i> , 2005, 357, 152-158.	2.7	6
51	Simultaneous Multi-Bragg Peak Coherent X-ray Diffraction Imaging. <i>Crystals</i> , 2021, 11, 312.	2.2	6
52	Twins and their boundaries during homoepitaxy on Ir(111). <i>Physical Review B</i> , 2011, 83, .	3.2	5
53	Local strain redistribution in a coarse-grained nickel-based superalloy subjected to shot-peening, fatigue or thermal exposure investigated using synchrotron X-ray Laue microdiffraction. <i>Journal of Materials Science</i> , 2018, 53, 8567-8589.	3.7	5
54	Three-point bending behavior of a Au nanowire studied by <i>in-situ</i> Laue micro-diffraction. <i>Journal of Applied Physics</i> , 2018, 124, .	2.5	5

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55	Validity of Crystal Plasticity Models Near Grain Boundaries: Contribution of Elastic Strain Measurements at Micron Scale. <i>Jom</i> , 2019, 71, 3543-3551.	1.9	5
56	LaueNN: neural-network-based $\langle i \rangle hkl \langle /i \rangle$ recognition of Laue spots and its application to polycrystalline materials. <i>Journal of Applied Crystallography</i> , 2022, 55, 737-750.	4.5	5
57	Carbon Monoxide Oxidation Promoted by a Highly Active Strained PdO Layer at the Surface of Au <sub>30</sub> Pd <sub>70</sub> (110). <i>ACS Catalysis</i> , 2019, 9, 4448-4461.	11.2	4
58	Oxygen-induced stress-modified reconstructions of the Ta(110)/Al <sub>2</sub> O <sub>3</sub> (11 $\bar{2}$ 0) surface: a surface X-ray diffraction study. <i>Surface Science</i> , 2001, 492, 41-54.	1.9	3
59	Stacking dependent disordering processes in Gd/Co/Pt(111) studied with surface x-ray diffraction. <i>Physical Review B</i> , 2008, 78, .	3.2	3
60	High stresses stored in fault zones: example of the Nojima fault (Japan). <i>Solid Earth</i> , 2018, 9, 505-529.	2.8	3
61	Laue Microdiffraction at the ESRF. , 2014, , 156-204.		2
62	In-situ X-ray $\frac{1}{4}$ Laue diffraction study of copper through-silicon vias. <i>Microelectronics Reliability</i> , 2016, 56, 78-84.	1.7	2
63	In-situ force measurement during nano-indentation combined with Laue microdiffraction. <i>Nano Select</i> , 2021, 2, 99-106.	3.7	2
64	Magnetic anisotropy of submonolayer Pt films grown on Ni(110). <i>Journal of Physics Condensed Matter</i> , 2003, 15, 4279-4285.	1.8	1
65	Interface effects on Gd induced disordering of Co films on Pt(111). <i>Surface Science</i> , 2012, 606, 933-937.	1.9	1
66	Full elastic strain tensor determination at the phase scale in a powder metallurgy nickel-based superalloy using X-ray Laue microdiffraction. <i>Journal of Applied Crystallography</i> , 2017, 50, 1754-1765.	4.5	1
67	First stages of plasticity in three-point bent Au nanowires detected by in situ Laue microdiffraction. <i>Applied Physics Letters</i> , 2020, 116, 243101.	3.3	1
68	Structure and growth kinetics of the oxidation process of Fe(001) whisker surfaces over a 10-decade pressure range. <i>Surface Science</i> , 2010, 604, 1840-1844.	1.9	0
69	Stress field in deformed polycrystals at the micron scale. <i>EPJ Web of Conferences</i> , 2010, 6, 35005.	0.3	0
70	Recent developments in white and monochromatic X-ray microdiffraction. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010, 66, s100-s101.	0.3	0
71	Plasticity in inhomogeneously strained Au nanowires studied by Laue microdiffraction. <i>MRS Advances</i> , 2018, 3, 2331-2339.	0.9	0
72	The surface structure of model catalyst in action investigated by X-ray diffraction. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2005, 61, c8-c8.	0.3	0

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73	Following growth and catalytic reaction of oxide-supported metal nanoparticles with GISAXS. Acta Crystallographica Section A: Foundations and Advances, 2008, 64, C17-C18.	0.3	0
74	Présentation des possibilités de la diffraction de surface en ultra-vide sur les lignes françaises à l'ESRF. European Physical Journal Special Topics, 1996, 06, C4-341-C4-349.	0.2	0
75	Étude de la croissance de l'interface Ni/MgO(001) par diffraction de rayons X en incidence rasante. European Physical Journal Special Topics, 1998, 08, Pr4-221-Pr4-226.	0.2	0
76	La diffraction de rayons X en incidence rasante à l'ESRF : application à l'étude de surfaces et d'interfaces à base d'oxydes. European Physical Journal Special Topics, 1998, 08, Pr5-203-Pr5-213.	0.2	0
77	La microdiffraction Laue. , 2015, , 68-71.	0.1	0