Smagul Z Karazhanov

List of Publications by Year
in descending order

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116 papers	2,145 citations	249298 26 h-index	340414 39 g-index
122 all docs	122 docs citations	122 times ranked	2597 citing authors

#	Article	IF	Citations
1	DFT study of NH3 adsorption on 2D monolayer MXenes (M2C, MÂ=ÂCr, Fe) via oxygen functionalization: Suitable materials for gas sensors. FlatChem, 2022, 31, 100329.	2.8	22
2	Physical and chemical properties of dust in the Pre-Aral region of Uzbekistan. Environmental Science and Pollution Research, 2022, 29, 40893-40902.	2.7	6
3	Plasmonic hot-electron assisted phase transformation in 2D-MoS₂ for the hydrogen evolution reaction: current status and future prospects. Journal of Materials Chemistry A, 2022, 10, 8626-8655.	5.2	24
4	On the Crystal Chemistry of Photochromic Yttrium Oxyhydride. Energies, 2022, 15, 1903.	1.6	2
5	Metallic-phase of MoS2 as potential electrocatalyst for hydrogen production via water splitting: A brief review. Current Opinion in Electrochemistry, 2022, 35, 101067.	2.5	11
6	High performance sodium-ion battery anode using biomass derived hard carbon with engineered defective sites. Electrochimica Acta, 2021, 368, 137574.	2.6	54
7	Comparative analysis of photothermal boiling of water enhanced by nano- and micro-particles of carbon black. Materials Letters, 2021, 285, 129078.	1.3	12
8	Temperatureâ€Dependent Photochromic Performance of Yttrium Oxyhydride Thin Films. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000459.	1.2	10
9	Scaling up Studies on PEMFC Using a Modified Serpentine Flow Field Incorporating Porous Sponge Inserts to Observe Water Molecules. Molecules, 2021, 26, 286.	1.7	10
10	Recent developments in metalâ€free organic sensitizers derived from carbazole, triphenylamine, and phenothiazine for dyeâ€sensitized solar cells. International Journal of Energy Research, 2021, 45, 6584-6643.	2.2	51
11	Environmental dependence of the photochromic effect of oxygen-containing rare-earth metal hydrides. Journal of Applied Physics, 2021, 129, .	1.1	10
12	Orthogonal chemistry in the design of rare-earth metal oxyhydrides. Pure and Applied Chemistry, 2021, .	0.9	1
13	Theoretical Design of Effective Multilayer Optical Coatings Using Oxyhydride Thin Films. Physica Status Solidi (B): Basic Research, 2021, 258, 2100179.	0.7	5
14	Surface Treatment of Industrial-Grade Magnetite Particles for Enhanced Thermal Stability and Mitigating Paint Contaminants. Nanomaterials, 2021, 11, 2299.	1.9	0
15	A Novel Thermochemical Metal Halide Treatment for High-Performance Sb2Se3 Photocathodes. Nanomaterials, 2021, 11, 52.	1.9	7
16	Application of bromide-iodide lead perovskite thin film as a copper-free back contact layer for CdTe solar cells. Solar Energy, 2021, 230, 832-842.	2.9	3
17	Visible light-assisted instability of kesterite Cu2ZnSnS4: What are the implications?. Solar Energy Materials and Solar Cells, 2020, 208, 110384.	3.0	8
18	Hybrid solar cells with Î²- and Î³- gallium oxide nanoparticles. Materials Letters, 2020, 261, 127088.	1.3	13

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19	Platinum doped iron carbide for the hydrogen evolution reaction: The effects of charge transfer and magnetic moment by first-principles approach. International Journal of Hydrogen Energy, 2020, 45, 31825-31840.	3.8	16
20	Preferential Orientation of Photochromic Gadolinium Oxyhydride Films. Molecules, 2020, 25, 3181.	1.7	9
21	Novel lead dioxide intercalated polypyrrole/graphene oxide ternary composite for high throughput supercapacitors. Materials Letters, 2020, 273, 127943.	1.3	19
22	Divulging the electrochemical hydrogen storage on nitrogen doped graphene and its superior capacitive performance. Materials Letters, 2020, 273, 127919.	1.3	25
23	Carbon-dioxide as annealing atmosphere to retain the electrical properties of indium-tin oxide. Materials Letters, 2020, 276, 128195.	1.3	2
24	Dicyandiamide-formaldehyde and Borassus Flabellifer inflorescence assisted preparation of low surface area nitrogen-doped carbon as high-performance anode for lithium-ion batteries. Materials Letters, 2020, 276, 128218.	1.3	6
25	Editorial: Topical issue â€œMaterials for environmental applicationsâ€• Materials Letters, 2020, 273, 127939.	1.3	2
26	Effect of temperature and illumination conditions on the photochromic performance of yttrium oxyhydride thin films. Journal of Applied Physics, 2020, 128, .	1.1	7
27	On Prediction of a Novel Chiral Material Y2H3O(OH): A Hydroxyhydride Holding Hydridic and Protonic Hydrogens. Materials, 2020, 13, 994.	1.3	1
28	Synergetic Improvement of Stability and Conductivity of Hybrid Composites formed by PEDOT:PSS and SnO Nanoparticles. Molecules, 2020, 25, 695.	1.7	21
29	Improved silicon surface passivation by hybrid composites formed by PEDOT:PSS with anatase TiO2 nanoparticles. Materials Letters, 2020, 271, 127802.	1.3	11
30	Comparative study of the implementation of tin and titanium oxide nanoparticles as electrodes materials in Li-ion batteries. Scientific Reports, 2020, 10, 5503.	1.6	15
31	Light-induced breathing in photochromic yttrium oxyhydrides. Physical Review Materials, 2020, 4, .	0.9	21
32	Supercapacitor studies of activated carbon functionalized with poly(ethylene dioxythiophene): Effects of surfactants, electrolyte concentration on electrochemical properties. Materials Letters, 2020, 273, 127978.	1.3	6
33	Electrochemical Performance of Nitrogen-Doped TiO2 Nanotubes as Electrode Material for Supercapacitor and Li-Ion Battery. Molecules, 2019, 24, 2952.	1.7	39
34	Sonochemistry-assisted fabrication of 1D-ZnSb2O6@2D-MoS2 nanostructures: A synergistic energy storage material for supercapacitors. Ultrasonics Sonochemistry, 2019, 58, 104589.	3.8	3
35	Conceptual Design of Yttrium Oxyhydrides: Phase Diagram, Structure, and Properties. Crystal Growth and Design, 2019, 19, 2574-2582.	1.4	16
36	The dependence of structural, electrical and optical properties on the composition of photochromic yttrium oxyhydride thin films. Materialia, 2019, 6, 100307.	1.3	15

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37	Partially graphitic nanoporous activated carbon prepared from biomass for supercapacitor application. Materials Letters, 2018, 218, 165-168.	1.3	52
38	Electronic properties of Î²-TaON and its surfaces for solar water splitting. Applied Catalysis B: Environmental, 2018, 229, 24-31.	10.8	52
39	Synthesis of nanoporous carbon with new activating agent for high-performance supercapacitor. Materials Letters, 2018, 218, 181-184.	1.3	31
40	Three-dimensional architecture of tin dioxide doped polypyrrole/reduced graphene oxide as potential electrode for flexible supercapacitors. Materials Letters, 2018, 221, 179-182.	1.3	20
41	Spectroscopic Ellipsometry and Microstructure Characterization of Photochromic Oxygenâ€Containing Yttrium Hydride Thin Films. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1701039.	0.8	12
42	Preparation of yttrium hydride-based photochromic films by reactive magnetron sputtering. Solar Energy Materials and Solar Cells, 2018, 177, 106-109.	3.0	30
43	Composition of photochromic oxygen-containing yttrium hydride films. Solar Energy Materials and Solar Cells, 2018, 177, 66-69.	3.0	27
44	A review on applications of Cu2ZnSnS4 as alternative counter electrodes in dye-sensitized solar cells. AIP Advances, 2018, 8, .	0.6	16
45	Photoluminescence Properties of Photochromic Yttrium Hydride Films Containing Oxygen. Physica Status Solidi (B): Basic Research, 2018, 255, 1800139.	0.7	5
46	Understanding the effects of Cr doping in rutile TiO2 by DFT calculations and X-ray spectroscopy. Scientific Reports, 2018, 8, 8740.	1.6	16
47	Yttrium oxyhydrides for photochromic applications: Correlating composition and optical response. Physical Review Materials, 2018, 2, .	0.9	29
48	Enhanced photochromic response in oxygen-containing yttrium hydride thin films transformed by an oxidation process. Solar Energy Materials and Solar Cells, 2017, 166, 185-189.	3.0	23
49	Thermochromic and photochromic colour change in Mg-Ni-H thin films. Materials Letters, 2017, 188, 403-405.	1.3	4
50	Elastic constants and mechanical properties of PEDOT from first principles calculations. Computational Materials Science, 2017, 139, 234-242.	1.4	15
51	Carbon nanotubes for organic/inorganic hybrid solar cells. Materials Science in Semiconductor Processing, 2016, 41, 137-149.	1.9	31
52	Special issue on Nanomaterials for energy and environmental applications. AIMS Materials Science, 2016, 3, 1125-1125.	0.7	0
53	Preparation of meta-stable phases of barium titanate by Sol-hydrothermal method. AIP Advances, 2015, 5, .	0.6	30
54	Electronic and optical properties of magnesium and calcium hydroxides: the role of covalency and many-body effects. Physica Scripta, 2015, 90, 094015.	1.2	13

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55	Pulsed laser deposition and optical band gap engineering in multinary transparent conducting oxide thinfilms. Materials Science in Semiconductor Processing, 2015, 31, 624-629.	1.9	9
56	Dynamic reactive sputtering of photochromic yttrium hydride thin films. Solar Energy Materials and Solar Cells, 2015, 143, 623-626.	3.0	21
57	Dâ€“Ï€â€“A system based on zinc porphyrin dyes for dye-sensitized solar cells: Combined experimental and DFTâ€“TDDFT study. Polyhedron, 2015, 100, 313-320.	1.0	29
58	Engineering of the band gap and optical properties of thin films of yttrium hydride. Applied Physics Letters, 2014, 105, .	1.5	36
59	Vibrational zero point energy for H-doped silicon. Chemical Physics Letters, 2014, 601, 49-53.	1.2	4
60	Materials properties of magnesium and calcium hydroxides from first-principles calculations. Computational Materials Science, 2014, 95, 693-705.	1.4	35
61	Role of oxygen in materials properties of yttrium trihydride. Solid State Communications, 2014, 194, 39-42.	0.9	22
62	The electronic state of thin films of yttrium, yttrium hydrides and yttrium oxide. Solar Energy Materials and Solar Cells, 2014, 128, 270-274.	3.0	56
63	Excitons in Mg(OH)2 and Ca(OH)2 from ab initio calculations. Solid State Communications, 2014, 193, 11-15.	0.9	11
64	Lattice contraction in photochromic yttrium hydride. Journal of Alloys and Compounds, 2013, 580, S119-S121.	2.8	42
65	Structural and Physical Property Analysis of ZnOâ€“SnO2â€“In2O3â€“Ga2O3 Quaternary Transparent Conducting Oxide System. Journal of Materials Science and Technology, 2013, 29, 419-422.	5.6	19
66	Surface oxide on thin films of yttrium hydride studied by neutron reflectometry. Applied Physics Letters, 2012, 100, .	1.5	19
67	The dielectric functions and optical band gaps of thin films of amorphous and cubic crystalline Mg~2NiH~4. Thin Solid Films, 2012, 520, 6786-6792.	0.8	13
68	MgyNi1â^'y(Hx) thin films deposited by magnetron co-sputtering. Journal of Alloys and Compounds, 2012, 527, 76-83.	2.8	12
69	Ab-initio study of silicon nanowires. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 1499-1500.	0.8	0
70	Ab initio study of the diffusion barriers for iron and chromium impurities in silicon. Energy Procedia, 2011, 8, 23-27.	1.8	2
71	Plasmonics for Light Trapping in Silicon Solar Cells. Energy Procedia, 2011, 10, 287-291.	1.8	14
72	Transparent yttrium hydride thin films prepared by reactive sputtering. Journal of Alloys and Compounds, 2011, 509, S812-S816.	2.8	41

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73	A new thin film photochromic material: Oxygen-containing yttrium hydride. Solar Energy Materials and Solar Cells, 2011, 95, 3596-3599.	3.0	90
74	Influence of hydrogen on electrical and optical properties of ZnO films. Physica Status Solidi (B): Basic Research, 2011, 248, 1702-1707.	0.7	23
75	Deposition of magnesium hydride thin films using radio frequency reactive sputtering. Thin Solid Films, 2011, 519, 5949-5954.	0.8	10
76	First-principles study on electronic structure, phase stability, and optical properties of In2X2O7 (Xâ•Ć,) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.8	11
77	Doping-induced modulation of electrical and optical properties of silicon nitride. Thin Solid Films, 2010, 518, 4918-4922.	0.8	5
78	Stability of diatomic hydrogen in oxygenâ€deficient ZnO. Physica Status Solidi (B): Basic Research, 2010, 247, 950-954.	0.7	6
79	Ab Initio Study Of Double Oxides ZnX₂O₄(X=Al, Ga, In) Having Spinel Structure. Journal of the American Ceramic Society, 2010, 93, 3335-3341.	1.9	53
80	Similarity of optical properties of hydrides and semiconductors for antireflection coatings. Philosophical Magazine, 2010, 90, 2925-2937.	0.7	10
81	Electronic structure and optical properties of ZnSiO3 and Zn2SiO4. Journal of Applied Physics, 2009, 106, .	1.1	75
82	Electrical Properties of Silicon with Bistable Impurity Complexes. Materials Research Society Symposia Proceedings, 2009, 1210, 1.	0.1	0
83	Reactive Sputtering of Magnesium Hydride Thin Films for Photovoltaic Applications. Materials Research Society Symposia Proceedings, 2009, 1210, 1.	0.1	1
84	A study of electrical properties of dislocation engineered Si processed by ultrasound. Journal of Physics and Chemistry of Solids, 2009, 70, 989-992.	1.9	7
85	Sensitivity of dislocation engineered Si p-n junctions to influence of illumination and ultrasound. Inorganic Materials, 2009, 45, 1213-1216.	0.2	0
86	Classification of hydrides according to features of band structure. Philosophical Magazine, 2009, 89, 1111-1120.	0.7	9
87	Phase stability and pressure-induced structural transitions at zero temperature in ZnSiO₃and Zn₂SiO₄. Journal of Physics Condensed Matter, 2009, 21, 485801.	0.7	20
88	Hydrides as materials for semiconductor electronics. Philosophical Magazine, 2008, 88, 2461-2476.	0.7	33
89	Semiconducting hydrides. Europhysics Letters, 2008, 82, 17006.	0.7	23
90	Open-circuit voltage decay transient in dislocation-engineered Si pâ€“n junction. Journal Physics D: Applied Physics, 2008, 41, 165107.	1.3	16

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91	Similarity of electronic structure and optical properties of Mg ₂ NiH ₄ and Si. Europhysics Letters, 2008, 82, 48004.	0.7	11
92	Electronic structure, structural and optical properties of thermally evaporated CdTe thin films. Physica B: Condensed Matter, 2007, 387, 227-238.	1.3	108
93	Hydride electronics. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 3538-3544.	0.8	17
94	Electronic structure and band parameters for Zn (, S, Se, Te). Journal of Crystal Growth, 2006, 287, 162-168.	0.7	60
95	Strong Coulomb correlation effects in ZnO. Solid State Communications, 2006, 139, 391-396.	0.9	15
96	Dynamics of the defects recharging in coarse-grained p-CdTe films. Semiconductors, 2006, 40, 180-182.	0.2	0
97	Ab initio Studies of the Band Parameters of IIIâ€“V and IIâ€“VI Zinc-Blende Semiconductors. Semiconductors, 2005, 39, 161.	0.2	80
98	A p-i-n Model of CdTe/CdS Heterostructures. Inorganic Materials, 2005, 41, 800-802.	0.2	13
99	(IV2)1â^'x (III-V)x solid solutions obtained from a bounded tin melt-solution. Semiconductors, 2004, 38, 1245-1253.	0.2	1
100	Oxygen vacancy in cubic WO3 studied by first-principles pseudopotential calculation. Solid State Ionics, 2003, 165, 43-49.	1.3	31
101	The effect of Î³ radiation on the properties of p-n-p structures based on polycrystalline cadmium telluride. Technical Physics Letters, 2003, 29, 917-919.	0.2	1
102	Radiation-stimulated processes in CdTe solar cells. Technical Physics Letters, 2003, 29, 1052-1054.	0.2	3
103	Characterization of deep defects in CdxHg1ÂxTe by injection-level spectroscopy of carrier lifetime. Semiconductor Science and Technology, 2002, 17, 682-685.	1.0	1
104	Impurity photovoltaic effect in indium-doped silicon solar cells. Journal of Applied Physics, 2001, 89, 4030-4036.	1.1	31
105	Excess tunneling currents in p-Si-n-3C-SiC heterostructures. Semiconductors, 2001, 35, 77-79.	0.2	7
106	Methods for determining deep defect concentration from dependence of excess carrier density and lifetime on illumination intensity. Semiconductor Science and Technology, 2001, 16, 276-280.	1.0	6
107	Anomalous degradation of solar cells induced by carrier trapping. Applied Physics Letters, 2001, 78, 3836-3838.	1.5	4
108	Mechanisms for the anomalous dependence of carrier lifetime on injection level and photoconductance on light intensity. Journal of Applied Physics, 2001, 89, 332-335.	1.1	11

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109	Properties of precisely compensated semiconductors. Semiconductors, 2000, 34, 872-879.	0.2	4
110	Electrical properties of semiconductors with pair defects. Semiconductors, 2000, 34, 880-885.	0.2	1
111	Charge carrier recombination via isoelectronic traps involving excitons in compensated semiconductors. Technical Physics Letters, 2000, 26, 187-189.	0.2	0
112	Properties of exactly compensated semiconductors under excitonic modulation of the charge of deep impurities. Semiconductor Science and Technology, 2000, 15, 638-642.	1.0	1
113	Effect of radiation-induced defects on silicon solar cells. Journal of Applied Physics, 2000, 88, 3941.	1.1	12
114	Mechanism for the anomalous degradation of silicon space solar cells. Applied Physics Letters, 2000, 76, 2689-2691.	1.5	19
115	The effect of excitons on CdTe solar cells. Journal of Applied Physics, 2000, 87, 8786-8792.	1.1	13
116	Exciton-stimulated modulation of recombination in solar cells. Journal of Applied Physics, 1997, 82, 5807-5810.	1.1	6