Vladimir K Ryabchuk

List of Publications by Year
in descending order

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54 papers	2,258 citations	279798 23 h-index	214800 47 g-index
57 all docs	57 docs citations	57 times ranked	2787 citing authors

#	Article	IF	Citations
1	Spectroscopic and Photoluminescence Studies of a Wide Band Gap Insulating Material:Â Powdered and Colloidal ZrO2Sols. Langmuir, 1998, 14, 5011-5022.	3.5	268
2	Dogmas and Misconceptions in Heterogeneous Photocatalysis. Some Enlightened Reflections. Journal of Physical Chemistry B, 2005, 109, 18515-18521.	2.6	189
3	Factors affecting the efficiency of a photocatalyzed process in aqueous metal-oxide dispersions. Journal of Photochemistry and Photobiology A: Chemistry, 2000, 133, 89-97.	3.9	170
4	Terminology, relative photonic efficiencies and quantum yields in heterogeneous photocatalysis. Part II: Experimental determination of quantum yields. Pure and Applied Chemistry, 1999, 71, 321-335.	1.9	139
5	Why do Hydrogen and Oxygen Yields from Semiconductor-Based Photocatalyzed Water Splitting Remain Disappointingly Low? Intrinsic and Extrinsic Factors Impacting Surface Redox Reactions. ACS Energy Letters, 2016, 1, 931-948.	17.4	119
6	Photoinduced Formation of Defects and Nitrogen Stabilization of Color Centers in N-Doped Titanium Dioxide. Journal of Physical Chemistry C, 2007, 111, 11456-11462.	3.1	96
7	On the genesis of heterogeneous photocatalysis: a brief historical perspective in the period 1910 to the mid-1980s. Photochemical and Photobiological Sciences, 2012, 11, 1121-1150.	2.9	88
8	Invalidity of Band-Gap Engineering Concept for Bi³⁺ Heterovalent Doping in CsPbBr₃ Halide Perovskite. Journal of Physical Chemistry Letters, 2018, 9, 5408-5411.	4.6	88
9	Photostimulated Generation of Defects and Surface Reactions on a Series of Wide Band Gap Metal-Oxide Solids. Journal of Physical Chemistry B, 1999, 103, 9190-9199.	2.6	83
10	Influence of the Dopant Concentration on the Photocatalytic Activity: Al-Doped TiO₂. Journal of Physical Chemistry C, 2015, 119, 24695-24703.	3.1	81
11	Spectral Dependencies of the Quantum Yield of Photochemical Processes on the Surface of Wide Band Gap Solids. 3. Gas/Solid Systemsâ€. Journal of Physical Chemistry B, 2000, 104, 2989-2999.	2.6	79
12	Light-driven advanced oxidation processes in the disposal of emerging pharmaceutical contaminants in aqueous media: A brief review. Current Opinion in Green and Sustainable Chemistry, 2017, 6, 18-33.	5.9	67
13	Photostimulated Reactions at the Surface of Wide Band-Gap Metal Oxides (ZrO2and TiO2): Interdependence of Rates of Reactions on Pressureâ^'Concentration and on Light Intensity. Journal of Physical Chemistry B, 1998, 102, 10906-10916.	2.6	60
14	Turnovers and photocatalysis. Journal of Photochemistry and Photobiology A: Chemistry, 2000, 130, 83-94.	3.9	60
15	On the way to the creation of next generation photoactive materials. Environmental Science and Pollution Research, 2012, 19, 3666-3675.	5.3	60
16	Spectral Dependencies of the Quantum Yield of Photochemical Processes on the Surface of Nano-/Microparticulates of Wide-Band-Gap Metal Oxides. 1. Theoretical Approach. Journal of Physical Chemistry B, 1999, 103, 1316-1324.	2.6	58
17	Effect of Surface Photoreactions on the Photocoloration of a Wide Band Gap Metal Oxide:â€‰ Probing Whether Surface Reactions Are Photocatalytic. Journal of Physical Chemistry B, 2005, 109, 5175-5185.	2.6	50
18	Photophysical processes related to photoadsorption and photocatalysis on wide band gap solids: A review. International Journal of Photoenergy, 2004, 6, 95-113.	2.5	43

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19	Spectral Dependencies of the Quantum Yield of Photochemical Processes on the Surface of Nano/Micro-Particulates of Wide-Band-Gap Metal Oxides. IV. Theoretical Modeling of the Activity and Selectivity of Semiconductor Photocatalysts with Inclusion of a Subsurface Electric Field in the Space Charge Region. Journal of Physical Chemistry B, 2003, 107, 7109-7119.	2.6	40
20	Thermo- and Photo-stimulated Effects on the Optical Properties of Rutile Titania Ceramic Layers Formed on Titanium Substrates. Chemistry of Materials, 2013, 25, 170-177.	6.7	38
21	Photo-induced processes in heterogeneous nanosystems. From photoexcitation to interfacial chemical transformations. International Journal of Photoenergy, 2001, 3, 1-16.	2.5	28
22	Photoreactions occurring on metal-oxide surfaces are not all photocatalytic. Catalysis Today, 2007, 122, 91-100.	4.4	27
23	Spectral Dependencies of the Quantum Yield of Photochemical Processes on the Surface of Wide-Band-Gap Metal Oxides. 2. Gas/Solid System Involving Scandia (Sc2O3) Particles. Journal of Physical Chemistry B, 1999, 103, 1325-1331.	2.6	25
24	Solid-state synthesis, characterization, UV-induced coloration and photocatalytic activity â€“ The Sr6Bi2O11, Sr3Bi2O6 and Sr2Bi2O5 bismuthates. Catalysis Today, 2020, 340, 70-85.	4.4	25
25	Photochemical and Photophysical Processes on the Surface of Wide Band Gap Insulator Particulates: Gas/Solid System Involving Scandia (Sc2O3) Particles. Chemistry of Materials, 1998, 10, 3484-3491.	6.7	20
26	Water Will Be the Coal of the Futureâ€”The Untamed Dream of Jules Verne for a Solar Fuel. Molecules, 2016, 21, 1638.	3.8	20
27	Abiogenesis and photostimulated heterogeneous reactions in the interstellar medium and on primitive earth. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2003, 3, 203-224.	11.6	19
28	Considerations of Trends in Heterogeneous Photocatalysis. Correlations between Conduction and Valence Band Energies with Bandgap Energies of Various Photocatalysts. ChemCatChem, 2019, 11, 3534-3541.	3.7	19
29	Influence of the Dopant Concentration on the Photoelectrochemical Behavior of Al-Doped TiO₂. Journal of Physical Chemistry C, 2018, 122, 7975-7981.	3.1	17
30	Photoinduced Processes in Heterogeneous Gasâ^'Solid Systems. Temperature Dependence (100â^'600 K) and Modeling of a Surface Chemical Reaction on Zirconia that Triggers Photophysical Events in the Solid. Journal of Physical Chemistry B, 2002, 106, 5956-5966.	2.6	16
31	Photoinduced chesorluminescence from radical processes on ZrO2 surfaces. Chemical Physics Letters, 2000, 325, 288-292.	2.6	15
32	Spectroscopic Studies of Pristine and Fluorinated Nano-ZrO₂ in Photostimulated Heterogeneous Processes. Journal of Physical Chemistry C, 2009, 113, 4566-4574.	3.1	15
33	Calcium Bismuthate Nanoparticulates with Orthorhombic and Rhombohedral Crystalline Lattices: Effects of Composition and Structure on Photoactivity. ChemistrySelect, 2017, 2, 9851-9863.	1.5	13
34	UV-induced formation of color centers in dispersed TiO2 particles: Effect of thermal treatment, metal (Al) doping, and adsorption of molecules. Journal of Photochemistry and Photobiology A: Chemistry, 2018, 354, 33-46.	3.9	13
35	Phenomenological Rule from Correlations of Conduction/Valence Band Energies and Bandgap Energies in Semiconductor Photocatalysts: Calcium Bismuthates versus Strontium Bismuthates. ChemCatChem, 2020, 12, 1551-1555.	3.7	12
36	Materials synthesis, characterization and DFT calculations of the visible-light-active perovskite-like barium bismuthate Ba_{1.264(4)}Bi_{1.971(4)}O₄ photocatalyst. Journal of Materials Chemistry C, 2020, 8, 3509-3519.	5.5	12

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37	Photoinduced Adsorption of Hydrogen and Methane on Î³-Alumina. The Photoinduced Chesorluminescence (PhICL) Effect. Langmuir, 2004, 20, 129-135.	3.5	10
38	Visibleâ€“NIR Light Absorption of Titania Thermochemically Fabricated from Titanium and its Alloys; UV- and Visible-Light-Induced Photochromism of Yellow Titania. Journal of Physical Chemistry C, 2013, 117, 25852-25864.	3.1	10
39	Photoreactions of small molecules at the surface of alkali metal halides. Catalysis Today, 2000, 58, 89-102.	4.4	9
40	Second Generation Visible-Light-Active Photocatalysts: Preparation, Optical Properties, and Consequences of Dopants on the Band Gap Energy of TiO2. Nanostructure Science and Technology, 2010, , 35-111.	0.1	9
41	Modeling and Experimental Examination of the Solonitsyn Memory Effect on the Surface of Wide Band Gap Metal Oxides. Journal of Physical Chemistry B, 2004, 108, 2354-2361.	2.6	8
42	Recent advances in composite and heterostructured photoactive materials for the photochemical conversion of solar energy. Current Opinion in Green and Sustainable Chemistry, 2022, 34, 100588.	5.9	7
43	Photoadsorption, photooxidation and photodecomposition of simple molecules on alkali halide surfaces. Reaction Kinetics and Catalysis Letters, 1988, 36, 119-124.	0.6	6
44	UV-induced defect formation in cubic ZrO2. Optical demonstration of Y, Yb and Er dopants interacting with photocarriers. Chemical Physics Letters, 2020, 742, 137136.	2.6	5
45	Effect of bismuth substitution for lead in CsPbBr₃ perovskite. Journal of Physics: Conference Series, 2018, 993, 012004.	0.4	4
46	Optical Properties of Various Strontium Bismuthates: Luminescence and UVâ€induced Photocoloration. ChemPhotoChem, 2020, 4, 5209-5222.	3.0	4
47	Differential Surface Stress of Single-Crystal Gold(111) in a Potassium Chloride Melt. Russian Journal of Electrochemistry, 2001, 37, 827-832.	0.9	3
48	CHAPTER 9. Interplay Between Physical and Chemical Events in Photoprocesses in Heterogeneous Systems. RSC Energy and Environment Series, 2016, , 218-244.	0.5	3
49	Correlations between photosorption and photocatalytic activities of alkali metal halides. Reaction Kinetics and Catalysis Letters, 1989, 39, 331-337.	0.6	2
50	Photoinduced Radical Processes on the Spinel (MgAl2O4) Surface Involving Methane, Ammonia, and Methane/Ammonia. Langmuir, 2012, 28, 7368-7373.	3.5	2
51	Separation and Recombination of Photocarriers from Color Centers and Optically Silent Trap States from 100 to 450 K: The Halide Double Photochromic Perovskite Cs₂AgBiBr₆. ACS Applied Materials & Interfaces, 2021, 13, 25513-25522.	8.0	2
52	Photoinduced oxygen adsorption of AgBr crystals at 77 K. Reaction Kinetics and Catalysis Letters, 1986, 32, 45-50.	0.6	1
53	The Study of Photoactive Materials. Reviews and Advances in Chemistry, 2020, 10, 73-111.	0.5	1
54	Photophysical Processes Related to Photoadsorption and Photocatalysis on Wide Band Gap Solids: A Review. ChemInform, 2005, 36, no.	0.0	0