Kirill A Lomachenko

List of Publications by Year in Descending Order

88 papers	3,727 citations	32 h-index	60 g-index
91 ext. papers	4,405 ext. citations	5.1 avg, IF	5.36 L-index

#	Paper	IF	Citations
88	Quantification of Adsorbates by X-ray Absorption Spectroscopy: Getting TGA-like Information for Free. *Journal of Physical Chemistry C*, **2022**, 126, 5175-5179	3.8	2
87	SO Poisoning of Cu-CHA deNO Catalyst: The Most Vulnerable Cu Species Identified by X-ray Absorption Spectroscopy.. *Jacs Au*, **2022**, 2, 787-792		0
86	Influence of Cu-speciation in mordenite on direct methane to methanol conversion: Multi-Technique characterization and comparison with NH3 selective catalytic reduction of NOx. *Catalysis Today*, **2021**, 369, 105-111	5.3	3
85	Hydrogenation of ethylene over palladium: evolution of the catalyst structure by operando synchrotron-based techniques. *Faraday Discussions*, **2021**, 229, 197-207	3.6	5
84	Cu- and Fe-speciation in a composite zeolite catalyst for selective catalytic reduction of NOx: insights from operando XAS. *Catalysis Science and Technology*, **2021**, 11, 846-860	5.5	4
83	Finding the active species: The conversion of methanol to aromatics over Zn-ZSM-5/alumina shaped catalysts. *Journal of Catalysis*, **2021**, 394, 416-428	7.3	13
82	CO2 hydrogenation to methanol and hydrocarbons over bifunctional Zn-doped ZrO2/zeolite catalysts. *Catalysis Science and Technology*, **2021**, 11, 1249-1268	5.5	8
81	Versatile and high temperature spectroscopic cell for operando fluorescence and transmission x-ray absorption spectroscopic studies of heterogeneous catalysts. *Review of Scientific Instruments*, **2021**, 92, 023106	1.7	2
80	Hampered PdO Redox Dynamics by Water Suppresses Lean Methane Oxidation over Realistic Palladium Catalysts. *ChemCatChem*, **2021**, 13, 3765-3771	5.2	3
79	Photoactivated Osmium Arene Anticancer Complexes. *Inorganic Chemistry*, **2021**, 60, 17450-17461	5.1	1
78	Investigating the role of Cu-oxo species in Cu-nitrate formation over Cu-CHA catalysts. *Physical Chemistry Chemical Physics*, **2021**, 23, 18322-18337	3.6	3
77	In situ X-ray absorption study of Cu species in Cu-CHA catalysts for NH3-SCR during temperature-programmed reduction in NO/NH3. *Research on Chemical Intermediates*, **2021**, 47, 357-375	2.8	3
76	Speciation of Ru Molecular Complexes in a Homogeneous Catalytic System: Fingerprint XANES Analysis Guided by Machine Learning. *Journal of Physical Chemistry C*, **2021**, 125, 27844-27852	3.8	3
75	EXAFS wavelet transform analysis of Cu-MOR zeolites for the direct methane to methanol conversion. *Physical Chemistry Chemical Physics*, **2020**, 22, 18950-18963	3.6	23
74	Comparing the Nature of Active Sites in Cu-loaded SAPO-34 and SSZ-13 for the Direct Conversion of Methane to Methanol. *Catalysts*, **2020**, 10, 191	4	9
73	Advanced X-ray Absorption Spectroscopy Analysis to Determine Structure-Activity Relationships for Cu-Zeolites in the Direct Conversion of Methane to Methanol. *ChemCatChem*, **2020**, 12, 2385-2405	5.2	10
72	Bimetallic hexanuclear clusters in Ce/Zr-UiO-66 MOFs: in situ FTIR spectroscopy and modelling insights. *Dalton Transactions*, **2020**, 49, 5794-5797	4.3	7

71	Energy and Environmental Science at ESRF. *Synchrotron Radiation News*, **2020**, 33, 40-51	0.6	1
70	Cerium(III) Nitrate Derived CeO2 Support Stabilising PtOx Active Species for Room Temperature CO Oxidation. *ChemCatChem*, **2020**, 12, 1413-1428	5.2	7
69	Structure and Reactivity of Oxygen-Bridged Diamino Dicopper(II) Complexes in Cu-Ion-Exchanged Chabazite Catalyst for NH-Mediated Selective Catalytic Reduction. *Journal of the American Chemical Society*, **2020**, 142, 15884-15896	16.4	51
68	Time-dependent carbide phase formation in palladium nanoparticles. *Radiation Physics and Chemistry*, **2020**, 175, 108079	2.5	9
67	Local structure of Cu(I) ions in the MOR zeolite: A DFT-assisted XAS study. *Radiation Physics and Chemistry*, **2020**, 175, 108111	2.5	5
66	Wavelet analysis of a Cu-oxo zeolite EXAFS simulated spectrum. *Radiation Physics and Chemistry*, **2020**, 175, 108333	2.5	5
65	Identifying Cu-oxo species in Cu-zeolites by XAS: A theoretical survey by DFT-assisted XANES simulation and EXAFS wavelet transform. *Catalysis Today*, **2020**, 345, 125-135	5.3	33
64	DFT-assisted XANES simulations to discriminate different monomeric CuII species in CHA catalysts. *Radiation Physics and Chemistry*, **2020**, 175, 108510	2.5	1
63	Dynamics of Reactive Species and Reactant-Induced Reconstruction of Pt Clusters in Pt/Al2O3 Catalysts. *ACS Catalysis*, **2019**, 9, 7124-7136	13.1	15
62	? Divergent coordination behavior of early-transition metals towards MOF-5. *Chemical Science*, **2019**, 10, 5906-5910	9.4	11
61	Evidence of Mixed-Ligand Complexes in Cu□HA by Reaction of Cu Nitrates with NO/NH3 at Low Temperature. *ChemCatChem*, **2019**, 11, 3828-3838	5.2	22
60	A Titanium(IV)-Based Metal□rganic Framework Featuring Defect-Rich Ti-O Sheets as an Oxidative Desulfurization Catalyst. *Angewandte Chemie*, **2019**, 131, 9258-9263	3.6	25
59	A Titanium(IV)-Based Metal-Organic Framework Featuring Defect-Rich Ti-O Sheets as an Oxidative Desulfurization Catalyst. *Angewandte Chemie - International Edition*, **2019**, 58, 9160-9165	16.4	53
58	Cu-Exchanged Ferrierite Zeolite for the Direct CH4 to CH3OH Conversion: Insights on Cu Speciation from X-Ray Absorption Spectroscopy. *Topics in Catalysis*, **2019**, 62, 712-723	2.3	5
57	Evolution of Pt and Pd species in functionalized UiO-67 metal-organic frameworks. *Catalysis Today*, **2019**, 336, 33-39	5.3	13
56	Temperature-dependent dynamics of NH3-derived Cu species in the Cu-CHA SCR catalyst. *Reaction Chemistry and Engineering*, **2019**, 4, 1067-1080	4.9	33
55	Evolution of active sites during selective oxidation of methane to methanol over Cu-CHA and Cu-MOR zeolites as monitored by operando XAS. *Catalysis Today*, **2019**, 333, 17-27	5.3	43
54	X-ray absorption spectroscopy data during formation of active Pt- and Pd-sites in functionalized UiO-67 metal-organic frameworks. *Data in Brief*, **2019**, 25, 104280	1.2	3

53	Kinetics of the Atomic Structure of Palladium Nanoparticles during the Desorption of Hydrogen According to X-Ray Diffraction. *JETP Letters*, **2019**, 109, 594-599	1.2	1
52	Quantitative structural determination of active sites from in situ and operando XANES spectra: From standard ab initio simulations to chemometric and machine learning approaches. *Catalysis Today*, **2019**, 336, 3-21	5.3	44
51	Understanding and Optimizing the Performance of Cu-FER for The Direct CH4 to CH3OH Conversion. *ChemCatChem*, **2019**, 11, 621-627	5.2	13
50	The impact of reaction conditions and material composition on the stepwise methane to methanol conversion over Cu-MOR: An operando XAS study. *Catalysis Today*, **2019**, 336, 99-108	5.3	19
49	Disclosing the Properties of a New Ce(III)-Based MOF: Ce2(NDC)3(DMF)2. *Crystal Growth and Design* , **2019**, 19, 787-796	3.5	18
48	Palladium Carbide and Hydride Formation in the Bulk and at the Surface of Palladium Nanoparticles. *Journal of Physical Chemistry C*, **2018**, 122, 12029-12037	3.8	45
47	Time-resolved operando studies of carbon supported Pd nanoparticles under hydrogenation reactions by X-ray diffraction and absorption. *Faraday Discussions*, **2018**, 208, 187-205	3.6	42
46	Operando study of palladium nanoparticles inside UiO-67 MOF for catalytic hydrogenation of hydrocarbons. *Faraday Discussions*, **2018**, 208, 287-306	3.6	37
45	High Zn/Al ratios enhance dehydrogenation vs hydrogen transfer reactions of Zn-ZSM-5 catalytic systems in methanol conversion to aromatics. *Journal of Catalysis*, **2018**, 362, 146-163	7.3	78
44	Investigation of the nanoscale two-component ZnS-ZnO heterostructures by means of HR-TEM and X-ray based analysis. *Journal of Solid State Chemistry*, **2018**, 262, 264-272	3.3	3
43	Unravelling the Redox-catalytic Behavior of Ce Metal-Organic Frameworks by X-ray Absorption Spectroscopy. *ChemPhysChem*, **2018**, 19, 373-378	3.2	69
42	Synthesis of M-UiO-66 (M = Zr, Ce or Hf) employing 2,5-pyridinedicarboxylic acid as a linker: defect chemistry, framework hydrophilisation and sorption properties. *Dalton Transactions*, **2018**, 47, 1062-1070	4.3	65
41	Experimental and theoretical study of hydrogen desorption process from Mn(BH4)2. *Journal of Alloys and Compounds*, **2018**, 735, 277-284	5.7	6
40	Exact Stoichiometry of Ce Zr Cornerstones in Mixed-Metal UiO-66 Metal-Organic Frameworks Revealed by Extended X-ray Absorption Fine Structure Spectroscopy. *Journal of the American Chemical Society*, **2018**, 140, 17379-17383	16.4	44
39	The Nuclearity of the Active Site for Methane to Methanol Conversion in Cu-Mordenite: A Quantitative Assessment. *Journal of the American Chemical Society*, **2018**, 140, 15270-15278	16.4	123
38	Exploring structure and reactivity of Cu sites in functionalized UiO-67 MOFs. *Catalysis Today*, **2017**, 283, 89-103	5.3	42
37	In situ formation of hydrides and carbides in palladium catalyst: When XANES is better than EXAFS and XRD. *Catalysis Today*, **2017**, 283, 119-126	5.3	81
36	Tuning Pt and Cu sites population inside functionalized UiO-67 MOF by controlling activation conditions. *Faraday Discussions*, **2017**, 201, 265-286	3.6	27

35	Co-Ligand Dependent Formation and Phase Transformation of Four Porphyrin-Based Cerium Metal□Organic Frameworks. *Crystal Growth and Design*, **2017**, 17, 3462-3474	3.5	23
34	Core□Shell Structure of Palladium Hydride Nanoparticles Revealed by Combined X-ray Absorption Spectroscopy and X-ray Diffraction. *Journal of Physical Chemistry C*, **2017**, 121, 18202-18213	3.8	57
33	Spectroscopic Methods in Catalysis and Their Application in Well-Defined Nanocatalysts. *Studies in Surface Science and Catalysis*, **2017**, 221-284	1.8	2
32	Reversible Capture and Release of Cl and Br with a Redox-Active Metal-Organic Framework. *Journal of the American Chemical Society*, **2017**, 139, 5992-5997	16.4	82
31	Methane to Methanol: Structure-Activity Relationships for Cu-CHA. *Journal of the American Chemical Society*, **2017**, 139, 14961-14975	16.4	202
30	The duality of UiO-67-Pt MOFs: connecting treatment conditions and encapsulated Pt species by operando XAS. *Physical Chemistry Chemical Physics*, **2017**, 19, 27489-27507	3.6	25
29	Composition-driven Cu-speciation and reducibility in Cu-CHA zeolite catalysts: a multivariate XAS/FTIR approach to complexity. *Chemical Science*, **2017**, 8, 6836-6851	9.4	129
28	Modulator Effect in UiO-66-NDC (1,4-Naphthalenedicarboxylic Acid) Synthesis and Comparison with UiO-67-NDC Isoreticular Metal□Organic Frameworks. *Crystal Growth and Design*, **2017**, 17, 5422-5431	3.5	42
27	Probing Structure and Reactivity of Metal Centers in Metal□Organic Frameworks by XAS Techniques **2017**, 397-430		4
26	The Cu-CHA deNOx Catalyst in Action: Temperature-Dependent NH3-Assisted Selective Catalytic Reduction Monitored by Operando XAS and XES. *Journal of the American Chemical Society*, **2016**, 138, 12025-8	16.4	197
25	Nanotribology of copper clusters. *Nanotechnologies in Russia*, **2016**, 11, 593-602	0.6	2
24	Investigation of oxygen vacancies in CeO2/Pt system with synchrotron light techniques. *Journal of Physics: Conference Series*, **2016**, 712, 012064	0.3	1
23	Hydride phase formation in carbon supported palladium hydride nanoparticles byin situEXAFS and XRD. *Journal of Physics: Conference Series*, **2016**, 712, 012032	0.3	21
22	Finite difference method accelerated with sparse solvers for structural analysis of the metal-organic complexes. *Journal of Physics: Conference Series*, **2016**, 712, 012004	0.3	19
21	Solvent-Driven Gate Opening in MOF-76-Ce: Effect on CO2 Adsorption. *ChemSusChem*, **2016**, 9, 713-9	8.3	42
20	XAS on Rh and Ir metal sites in post synthetically functionalized UiO-67 Zirconium MOFs. *Journal of Physics: Conference Series*, **2016**, 712, 012053	0.3	2
19	A XAFS study of the local environment and reactivity of Pt- sites in functionalized UiO-67 MOFs. *Journal of Physics: Conference Series*, **2016**, 712, 012125	0.3	6
18	Active sites in Cu-SSZ-13 deNOx catalyst under reaction conditions: a XAS/XES perspective. *Journal of Physics: Conference Series*, **2016**, 712, 012041	0.3	11

17	Metal-organic frameworks: structure, properties, methods of synthesis and characterization. *Russian Chemical Reviews*, **2016**, 85, 280-307	6.8	198
16	Nitrate–nitrite equilibrium in the reaction of NO with a Cu-CHA catalyst for NH3-SCR. *Catalysis Science and Technology*, **2016**, 6, 8314-8324	5.5	39
15	Nanostructured Materials **2016**, 809-827		1
14	XAS and XES Techniques Shed Light on the Dark Side of Ziegler–Natta Catalysts: Active-Site Generation. *ChemCatChem*, **2015**, 7, 1432-1437	5.2	23
13	Optimized Finite Difference Method for the Full-Potential XANES Simulations: Application to Molecular Adsorption Geometries in MOFs and Metal-Ligand Intersystem Crossing Transients. *Journal of Chemical Theory and Computation*, **2015**, 11, 4512-21	6.4	137
12	Cerium-based metal organic frameworks with UiO-66 architecture: synthesis, properties and redox catalytic activity. *Chemical Communications*, **2015**, 51, 12578-81	5.8	249
11	A Consistent Reaction Scheme for the Selective Catalytic Reduction of Nitrogen Oxides with Ammonia. *ACS Catalysis*, **2015**, 5, 2832-2845	13.1	319
10	Doped CdTe-based quantum dots. *Bulletin of the Russian Academy of Sciences: Physics*, **2015**, 79, 1413-1416	0.4	4
9	Pd hydride and carbide studied by means of Pd K-edge X-ray absorption near-edge structure analysis. *Bulletin of the Russian Academy of Sciences: Physics*, **2015**, 79, 1180-1185	0.4	9
8	Probing Reactive Platinum Sites in UiO-67 Zirconium Metal–Organic Frameworks. *Chemistry of Materials*, **2015**, 27, 1042-1056	9.6	95
7	X-ray absorption spectroscopy determination of the products of manganese borohydride decomposition upon heating. *Bulletin of the Russian Academy of Sciences: Physics*, **2015**, 79, 139-143	0.4	5
6	Revisiting the nature of Cu sites in the activated Cu-SSZ-13 catalyst for SCR reaction. *Chemical Science*, **2015**, 6, 548-563	9.4	265
5	Temperature- and Pressure-Dependent Hydrogen Concentration in Supported PdHx Nanoparticles by Pd K-Edge X-ray Absorption Spectroscopy. *Journal of Physical Chemistry C*, **2014**, 118, 10416-10423	3.8	73
4	Atomic and electronic structure of free niobium nanoclusters: Simulation of the M4,5-XANES spectrum of Nb13+. *Journal of Electron Spectroscopy and Related Phenomena*, **2014**, 195, 189-194	1.7	6
3	Interaction of NH3 with Cu-SSZ-13 Catalyst: A Complementary FTIR, XANES, and XES Study. *Journal of Physical Chemistry Letters*, **2014**, 5, 1552-9	6.4	209
2	High energy resolution core-level X-ray spectroscopy for electronic and structural characterization of osmium compounds. *Physical Chemistry Chemical Physics*, **2013**, 15, 16152-9	3.6	32
1	Spin-State Transition, Magnetism and Local Crystal Structure in Eu1-xCaxCoO3-δ. *Journal of the Physical Society of Japan*, **2013**, 82, 044714	1.5	2