

# Heshmat Noei

## List of Publications by Year in descending order

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73  
papers

2,654  
citations

186209

28  
h-index

197736

49  
g-index

81  
all docs

81  
docs citations

81  
times ranked

4334  
citing authors

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | The identification of hydroxyl groups on ZnO nanoparticles by infrared spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 7092.  | 1.3  | 320       |
| 2  | Multifunctional, Defect-Engineered Metal-Organic Frameworks with Ruthenium Centers: Sorption and Catalytic Properties. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 7058-7062.   | 7.2  | 237       |
| 3  | Organically linked iron oxide nanoparticle supercrystals with exceptional isotropic mechanical properties. <i>Nature Materials</i> , 2016, 15, 522-528.  | 13.3 | 140       |
| 4  | Iron Metal-Organic Frameworks MIL-88B and NH <sub>2</sub> -MIL-88B for the Loading and Delivery of the Gasotransmitter Carbon Monoxide. <i>Chemistry - A European Journal</i> , 2013, 19, 6785-6790.   | 1.7  | 134       |
| 5  | Solvothermal growth of a ruthenium metal-organic framework featuring HKUST-1 structure type as thin films on oxide surfaces. <i>Chemical Communications</i> , 2011, 47, 8509.  | 2.2  | 118       |
| 6  | ZnO@ZIF-8: stabilization of quantum confined ZnO nanoparticles by a zinc methylimidazolate framework and their surface structural characterization probed by CO <sub>2</sub> adsorption. <i>Journal of Materials Chemistry</i> , 2011, 21, 5907. | 6.7  | 101       |
| 7  | Activation of Carbon Dioxide on ZnO Nanoparticles Studied by Vibrational Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2011, 115, 908-914.  | 1.5  | 79        |
| 8  | The Surface Science Approach for Understanding Reactions on Oxide Powders: The Importance of IR Spectroscopy. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 4731-4734.  | 7.2  | 68        |
| 9  | DESY NanoLab. <i>Journal of Large-scale Research Facilities JLSRF</i> , 0, 2, A76.   | 0.0  | 68        |
| 10 | A high-pressure x-ray photoelectron spectroscopy instrument for studies of industrially relevant catalytic reactions at pressures of several bars. <i>Review of Scientific Instruments</i> , 2019, 90, .   | 0.6  | 63        |
| 11 | Dissociation of formic acid on anatase TiO <sub>2</sub> (101) probed by vibrational spectroscopy. <i>Catalysis Today</i> , 2012, 182, 12-15.   | 2.2  | 58        |
| 12 | Ionic Liquid-Assisted Sonochemical Preparation of CeO <sub>2</sub> Nanoparticles for CO Oxidation. <i>ACS Sustainable Chemistry and Engineering</i> , 2015, 3, 42-54.  | 3.2  | 55        |
| 13 | CO Adsorption on a Mixed-Valence Ruthenium Metal-Organic Framework Studied by UHV-FTIR Spectroscopy and DFT Calculations. <i>Journal of Physical Chemistry C</i> , 2013, 117, 5658-5666.   | 1.5  | 48        |
| 14 | Use of confocal fluorescence microscopy to compare different methods of modifying metal-organic framework (MOF) crystals with dyes. <i>CrystEngComm</i> , 2011, 13, 2828.  | 1.3  | 47        |
| 15 | Mild yet phase-selective preparation of TiO <sub>2</sub> nanoparticles from ionic liquids - a critical study. <i>Nanoscale</i> , 2013, 5, 8045.  | 2.8  | 47        |
| 16 | Low-Temperature Oxidation of Carbon Monoxide with Gold(III) Ions Supported on Titanium Oxide. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 3245-3249.  | 7.2  | 46        |
| 17 | Rapid determination of aluminum by UV-vis diffuse reflectance spectroscopy with application of suitable adsorbents. <i>Talanta</i> , 2006, 70, 933-939.  | 2.9  | 43        |
| 18 | Adsorption of Formic Acid on the Fe <sub>3</sub> O <sub>4</sub> (001) Surface. <i>Journal of Physical Chemistry C</i> , 2015, 119, 20459-20465.  | 1.5  | 42        |

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|----|---|-----|-----------|
| 19 | Fabrication of Strain Gauges via Contact Printing: A Simple Route to Healthcare Sensors Based on Cross-Linked Gold Nanoparticles. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 37374-37385.            | 4.0 | 42        |
| 20 | Hydrogen Loading of Oxide Powder Particles: A Transmission IR Study for the Case of Zinc Oxide. <i>ChemPhysChem</i> , 2010, 11, 3604-3607.  | 1.0 | 40        |
| 21 | Atomic structure and stability of magnetite Fe <sub>3</sub> O <sub>4</sub> (001): An X-ray view. <i>Surface Science</i> , 2016, 653, 76-81.   | 0.8 | 40        |
| 22 | Interaction of carboxylic acids with rutile TiO <sub>2</sub> (110): IR-investigations of terephthalic and benzoic acid adsorbed on a single crystal substrate. <i>Surface Science</i> , 2016, 643, 117-123.         | 0.8 | 39        |
| 23 | Low-Temperature CO Oxidation over Cu-Based Metal-Organic Frameworks Monitored by using FTIR Spectroscopy. <i>ChemCatChem</i> , 2012, 4, 755-759.  | 1.8 | 38        |
| 24 | A New Synthesis Approach for Carbon Nitrides: Poly(triazine imide) and Its Photocatalytic Properties. <i>ACS Omega</i> , 2018, 3, 3892-3900.  | 1.6 | 37        |
| 25 | Protein-Protected Porous Bimetallic AgPt Nanoparticles with pH-Switchable Peroxidase/Catalase-Mimicking Activity. , 2019, 1, 310-319.   |     | 35        |
| 26 | The interaction of carbon monoxide with clean and surface-modified zinc oxide nanoparticles: A UHV-FTIRS study. <i>Applied Catalysis A: General</i> , 2011, 391, 31-35.   | 2.2 | 33        |
| 27 | TiO <sub>2</sub> nanoparticles containing sulphonated cobalt phthalocyanine: Preparation, characterization and photocatalytic performance. <i>Journal of Environmental Chemical Engineering</i> , 2014, 2, 484-494. | 3.3 | 33        |
| 28 | The Interaction of Formic Acid with Zinc Oxide: A Combined Experimental and Theoretical Study on Single Crystal and Powder Samples. <i>Topics in Catalysis</i> , 2015, 58, 174-183.                                 | 1.3 | 32        |
| 29 | Probing the Mechanism of Low-Temperature CO Oxidation on Au/ZnO Catalysts by Vibrational Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2012, 116, 11181-11188.   | 1.5 | 31        |
| 30 | Modulating the Mechanical Properties of Supercrystalline Nanocomposite Materials via Solvent-Ligand Interactions. <i>Langmuir</i> , 2019, 35, 13893-13903.  | 1.6 | 26        |
| 31 | Surface Reconstruction under the Exposure of Electric Fields Enhances the Reactivity of Donor-Doped SrTiO <sub>3</sub> . <i>Journal of Physical Chemistry C</i> , 2019, 123, 16883-16892.                           | 1.5 | 26        |
| 32 | Structure and stability of Gd-doped CeO <sub>2</sub> thin films on yttria-stabilized zirconia. <i>Thin Solid Films</i> , 2016, 603, 56-61.  | 0.8 | 24        |
| 33 | Model Catalytic Studies of Novel Liquid Organic Hydrogen Carriers: Indole, Indoline and Octahydroindole on Pt(111). <i>Chemistry - A European Journal</i> , 2017, 23, 14806-14818.                                  | 1.7 | 24        |
| 34 | Adsorption of Acetone on Rutile TiO <sub>2</sub> : A DFT and FTIRS Study. <i>Journal of Physical Chemistry C</i> , 2018, 122, 19481-19490.  | 1.5 | 23        |
| 35 | Characterization of Native Oxide and Passive Film on Austenite/Ferrite Phases of Duplex Stainless Steel Using Synchrotron HAXPEEM. <i>Journal of the Electrochemical Society</i> , 2019, 166, C3336-C3340.          | 1.3 | 22        |
| 36 | Lateral variation of the native passive film on super duplex stainless steel resolved by synchrotron hard X-ray photoelectron emission microscopy. <i>Corrosion Science</i> , 2020, 174, 108841.                    | 3.0 | 22        |

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|----|---|-----|-----------|
| 37 | A combined experimental and computational study on the adsorption and reactions of NO on rutile TiO <sub>2</sub> . <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 466-472.                          | 1.3 | 21        |
| 38 | Effect of Cr on the hydrogen storage and electronic properties of BCC alloys: Experimental and first-principles study. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 28996-29008.             | 3.8 | 21        |
| 39 | Vibrational spectroscopic studies on pure and metal-covered metal oxide surfaces. <i>Physica Status Solidi (B): Basic Research</i> , 2013, 250, 1204-1221.  | 0.7 | 19        |
| 40 | Elucidating the Defect-Induced Changes in the Photocatalytic Activity of TiO <sub>2</sub> . <i>Journal of Physical Chemistry C</i> , 2020, 124, 12539-12547.  | 1.5 | 19        |
| 41 | Niobium near-surface composition during nitrogen infusion relevant for superconducting radio-frequency cavities. <i>Physical Review Accelerators and Beams</i> , 2019, 22, .                                | 0.6 | 18        |
| 42 | Carboxylic acid induced near-surface restructuring of a magnetite surface. <i>Communications Chemistry</i> , 2019, 2, .   | 2.0 | 17        |
| 43 | Coverage-Induced Hydrogen Transfer on ZnO Surfaces: From Ideal to Real Systems. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 1977-1981.   | 7.2 | 16        |
| 44 | High-Performance and p-Type Field-Effect Transistors Based on Hybridly Surface-Passivated Colloidal PbS Nanosheets. <i>Advanced Functional Materials</i> , 2018, 28, 1706815.                               | 7.8 | 15        |
| 45 | Tuning the Elasticity of Cross-Linked Gold Nanoparticle Assemblies. <i>Journal of Physical Chemistry C</i> , 2019, 123, 19165-19174.  | 1.5 | 11        |
| 46 | Ultrafast Real-Time Dynamics of CO Oxidation over an Oxide Photocatalyst. <i>ACS Catalysis</i> , 2020, 10, 13650-13658.   | 5.5 | 11        |
| 47 | Water and Atomic Hydrogen Adsorption on Magnetite (001). <i>Journal of Physical Chemistry C</i> , 2019, 123, 26662-26672.   | 1.5 | 10        |
| 48 | Rare-earth substituted HfO <sub>2</sub> thin films grown by metalorganic chemical vapor deposition. <i>Thin Solid Films</i> , 2012, 520, 4512-4517.   | 0.8 | 9         |
| 49 | Monitoring the Interaction of CO with Graphene Supported Ir Clusters by Vibrational Spectroscopy and Density Functional Theory Calculations. <i>Journal of Physical Chemistry C</i> , 2018, 122, 4281-4289. | 1.5 | 9         |
| 50 | Surface characterization of nitrogen-doped Nb (100) large-grain superconducting RF cavity material. <i>Journal of Materials Science</i> , 2018, 53, 10411-10422.  | 1.7 | 9         |
| 51 | Hydrogen Solubility and Atomic Structure of Graphene Supported Pd Nanoclusters. <i>ACS Nano</i> , 2021, 15, 15771-15780.  | 7.3 | 9         |
| 52 | A model study on controlling dealloying corrosion attack by lateral modification of surfactant inhibitors. <i>Npj Materials Degradation</i> , 2021, 5, .  | 2.6 | 8         |
| 53 | Gold Nanoparticle-Based Chemiresistors: Recognition of Volatile Organic Compounds Using Tunable Response Kinetics. <i>ACS Applied Nano Materials</i> , 2021, 4, 10399-10408.                                | 2.4 | 8         |
| 54 | Strengthening Engineered Nanocrystal Three-Dimensional Superlattices via Ligand Conformation and Reactivity. <i>ACS Nano</i> , 2022, 16, 11692-11707.   | 7.3 | 8         |

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|----|--|-----|-----------|
| 55 | Interaction of Water with Graphene/Ir(111) Studied by Vibrational Spectroscopy. Langmuir, 2019, 35, 11285-11290.   | 1.6 | 7         |
| 56 | Heterogeneous Adsorption and Local Ordering of Formate on a Magnetite Surface. Journal of Physical Chemistry Letters, 2021, 12, 3847-3852.   | 2.1 | 7         |
| 57 | Surface structure of magnetite (111) under oxidizing and reducing conditions. Journal of Physics Condensed Matter, 2022, 34, 164003.   | 0.7 | 7         |
| 58 | Controlled Growth of Gold Nanoparticles on Covellite Copper Sulfide Nanoplatelets for the Formation of Plateâ€“Satellite Hybrid Structures. Chemistry of Materials, 2022, 34, 1157-1166. | 3.2 | 7         |
| 59 | Dehydrogenation of Liquid Organic Hydrogen Carriers on Supported Pd Model Catalysts: Carbon Incorporation Under Operation Conditions. Catalysis Letters, 2018, 148, 2901-2910.           | 1.4 | 6         |
| 60 | Elasticity of Cross-Linked Titania Nanocrystal Assemblies Probed by AFM-Bulge Tests. Nanomaterials, 2019, 9, 1230.   | 1.9 | 6         |
| 61 | Copper Nanoparticles with High Index Facets on Basal and Vicinal ZnO Surfaces. Journal of Physical Chemistry C, 2021, 125, 23561-23569.  | 1.5 | 6         |
| 62 | Function Follows Form: From Semiconducting to Metallic toward Superconducting PbS Nanowires by Faceting the Crystal. Advanced Functional Materials, 2020, 30, 1910503.                   | 7.8 | 5         |
| 63 | Metastability of palladium carbide nanoparticles during hydrogen release from liquid organic hydrogen carriers. Physical Chemistry Chemical Physics, 2021, 23, 1371-1380.                | 1.3 | 5         |
| 64 | Grain boundary segregation and carbide precipitation in heat treated niobium superconducting radio frequency cavities. Applied Physics Letters, 2021, 119, .                             | 1.5 | 5         |
| 65 | Temperature-dependent near-surface interstitial segregation in niobium. Journal of Physics Condensed Matter, 2021, 33, 265001.   | 0.7 | 3         |
| 66 | Response of free-standing graphene monolayer exposed to ultrashort intense XUV pulse from free-electron laser. Journal of Chemical Physics, 2021, 154, 204706.                           | 1.2 | 3         |
| 67 | Observation of iron diffusion in the near-surface region of magnetite at 470 K. Physical Review Research, 2020, 2, .   | 1.3 | 3         |
| 68 | Catalytic Behaviour of Mesoporous Cobalt-Aluminum Oxides for CO Oxidation. Journal of Catalysis, 2014, 2014, 1-9.  | 0.5 | 2         |
| 69 | How Different Characterization Techniques Elucidate the Nature of the Gold Species in a Polycrystalline Au/TiO <sub>2</sub> Catalyst. Chemie-Ingenieur-Technik, 2014, 86, 1883-1889.     | 0.4 | 2         |
| 70 | Toward Optimization of Centrifugal Barrel Polishing Procedure for Treatment of Niobium Cavities. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-5.                          | 1.1 | 2         |
| 71 | <i>Operando</i> reaction cell for high energy surface sensitive x-ray diffraction and reflectometry. Review of Scientific Instruments, 2022, 93, .                                       | 0.6 | 2         |
| 72 | Atomically thin monolayers of metal organic frameworks (MOFs) through implementing a Langmuir-Schaefer method. AIP Conference Proceedings, 2018, , .                                     | 0.3 | 1         |

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|----|--|-----|-----------|
| 73 | Durability of Colloidally Stabilized Supported Nickel and Nickel Platinum Nanoparticles during Redox-Cycling. Journal of Physical Chemistry C, 2021, 125, 8224-8235. | 1.5 | 1         |