# Maksym Yarema

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3356235/publications.pdf

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|---|---|---|---|
| 64 papers | 2,882 citations | 186265 28 h-index | 168389 53 g-index |
| 64 all docs | 64 docs citations | 64 times ranked | 4629 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Monodisperse and Inorganically Capped Sn and Sn/SnO<sub>2</sub> Nanocrystals for High-Performance Li-Ion Battery Anodes. Journal of the American Chemical Society, 2013, 135, 4199-4202. | 13.7 | 346 |
| 2 | Colloidal quantum dot electronics. Nature Electronics, 2021, 4, 548-558. | 26.0 | 192 |
| 3 | Infrared Emitting and Photoconducting Colloidal Silver Chalcogenide Nanocrystal Quantum Dots from a Silylamide-Promoted Synthesis. ACS Nano, 2011, 5, 3758-3765. | 14.6 | 164 |
| 4 | Tuning the Composition of Multicomponent Semiconductor Nanocrystals: The Case of Iâ€“IIIâ€“VI Materials. Chemistry of Materials, 2018, 30, 1446-1461. | 6.7 | 155 |
| 5 | Monodisperse Colloidal Gallium Nanoparticles: Synthesis, Low Temperature Crystallization, Surface Plasmon Resonance and Li-Ion Storage. Journal of the American Chemical Society, 2014, 136, 12422-12430. | 13.7 | 133 |
| 6 | Soft surfaces of nanomaterials enable strong phonon interactions. Nature, 2016, 531, 618-622. | 27.8 | 133 |
| 7 | Solutionâ€Processable Nearâ€IR Photodetectors Based on Electron Transfer from PbS Nanocrystals to Fullerene Derivatives. Advanced Materials, 2009, 21, 683-687. | 21.0 | 121 |
| 8 | Highly Luminescent, Size- and Shape-Tunable Copper Indium Selenide Based Colloidal Nanocrystals. Chemistry of Materials, 2013, 25, 3753-3757. | 6.7 | 113 |
| 9 | PbS nanocrystal solar cells with high efficiency and fill factor. Applied Physics Letters, 2010, 97, . | 3.3 | 108 |
| 10 | Low Driving Voltage and High Mobility Ambipolar Fieldâ€Effect Transistors with PbS Colloidal Nanocrystals. Advanced Materials, 2013, 25, 4309-4314. | 21.0 | 107 |
| 11 | Highly Monodisperse Bismuth Nanoparticles and Their Three-Dimensional Superlattices. Journal of the American Chemical Society, 2010, 132, 15158-15159. | 13.7 | 91 |
| 12 | Exploring the Origin of the Temperatureâ€Dependent Behavior of PbS Nanocrystal Thin Films and Solar Cells. Advanced Functional Materials, 2012, 22, 1598-1605. | 14.9 | 71 |
| 13 | Independent Composition and Size Control for Highly Luminescent Indium-Rich Silver Indium Selenide Nanocrystals. ACS Nano, 2015, 9, 11134-11142. | 14.6 | 70 |
| 14 | Spontaneous and reversible hollowing of alloy anode nanocrystals for stable battery cycling. Nature Nanotechnology, 2020, 15, 475-481. | 31.5 | 68 |
| 15 | Chargeâ€Separation Dynamics in Inorganicâ€“Organic Ternary Blends for Efficient Infrared Photodiodes. Advanced Functional Materials, 2011, 21, 1988-1992. | 14.9 | 61 |
| 16 | Size-Dependent Electron Transfer from Colloidal PbS Nanocrystals to Fullerene. Journal of Physical Chemistry Letters, 2010, 1, 1149-1154. | 4.6 | 54 |
| 17 | Colloidal Synthesis of InSb Nanocrystals with Controlled Polymorphism Using Indium and Antimony Amides. Chemistry of Materials, 2013, 25, 1788-1792. | 6.7 | 51 |
| 18 | Upscaling Colloidal Nanocrystal Hot-Injection Syntheses via Reactor Underpressure. Chemistry of Materials, 2017, 29, 796-803. | 6.7 | 51 |

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|---|---|---|---|
| 19 | Charge transport in semiconductors assembled from nanocrystal quantum dots. Nature Communications, 2020, 11, 2852. | 12.8 | 51 |
| 20 | Charge separation dynamics in a narrow band gap polymerâ€“PbS nanocrystal blend for efficient hybrid solar cells. Journal of Materials Chemistry, 2012, 22, 24411. | 6.7 | 48 |
| 21 | From Highly Monodisperse Indium and Indium Tin Colloidal Nanocrystals to Self-Assembled Indium Tin Oxide Nanoelectrodes. ACS Nano, 2012, 6, 4113-4121. | 14.6 | 48 |
| 22 | Crystal Phase Transitions in the Shell of PbS/CdS Core/Shell Nanocrystals Influences Photoluminescence Intensity. Chemistry of Materials, 2014, 26, 5914-5922. | 6.7 | 44 |
| 23 | Precision synthesis of colloidal inorganic nanocrystals using metal and metalloid amides. Nanoscale, 2013, 5, 8398. | 5.6 | 42 |
| 24 | Hole Mobility in Nanocrystal Solids as a Function of Constituent Nanocrystal Size. Journal of Physical Chemistry Letters, 2014, 5, 3522-3527. | 4.6 | 41 |
| 25 | Determination of the Electronic Energy Levels of Colloidal Nanocrystals using Fieldâ€Effect Transistors and Abâ€Initio Calculations. Advanced Materials, 2014, 26, 5639-5645. | 21.0 | 33 |
| 26 | Size, Ligand, and Defect-Dependent Electronâ€“Phonon Coupling in Chalcogenide and Perovskite Nanocrystals and Its Impact on Luminescence Line Widths. ACS Photonics, 2020, 7, 1088-1095. | 6.6 | 31 |
| 27 | Evaluation of Ordering in Single-Component and Binary Nanocrystal Superlattices by Analysis of Their Autocorrelation Functions. ACS Nano, 2011, 5, 1703-1712. | 14.6 | 30 |
| 28 | Size- and composition-controlled intermetallic nanocrystals via amalgamation seeded growth. Science Advances, 2021, 7, . | 10.3 | 30 |
| 29 | Sizeâ€Dependent Charge Transfer in Blends of PbS Quantum Dots with a Lowâ€Gap Siliconâ€Bridged Copolymer. Advanced Energy Materials, 2013, 3, 1490-1499. | 19.5 | 29 |
| 30 | Machine Learning for Analysis of Time-Resolved Luminescence Data. ACS Photonics, 2018, 5, 4888-4895. | 6.6 | 29 |
| 31 | Nanocrystal superlattices as phonon-engineered solids and acoustic metamaterials. Nature Communications, 2019, 10, 4236. | 12.8 | 25 |
| 32 | Colloidal Phase-Change Materials: Synthesis of Monodisperse GeTe Nanoparticles and Quantification of Their Size-Dependent Crystallization. Chemistry of Materials, 2018, 30, 6134-6143. | 6.7 | 24 |
| 33 | Cuâ€“Inâ€“Te and Agâ€“Inâ€“Te colloidal nanocrystals with tunable composition and size. Chemical Communications, 2016, 52, 10878-10881. | 4.1 | 22 |
| 34 | Measuring the Electronic Structure of Nanocrystal Thin Films Using Energy-Resolved Electrochemical Impedance Spectroscopy. Journal of Physical Chemistry Letters, 2018, 9, 1384-1392. | 4.6 | 22 |
| 35 | Low temperature hydrothermal synthesis of battery grade lithium iron phosphate. RSC Advances, 2017, 7, 17763-17767. | 3.6 | 21 |
| 36 | Measuring the Vibrational Density of States of Nanocrystal-Based Thin Films with Inelastic X-ray Scattering. Journal of Physical Chemistry Letters, 2018, 9, 1561-1567. | 4.6 | 20 |

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| 37 | Optical Properties of Amorphous and Crystalline GeTe Nanoparticle Thin Films: A Phase-Change Material for Tunable Photonics. ACS Applied Nano Materials, 2020, 3, 4314-4320. | 5.0 | 20 |
| 38 | Composition- and Size-Controlled Iâ€“Vâ€“VI Semiconductor Nanocrystals. Chemistry of Materials, 2020, 32, 2078-2085. | 6.7 | 16 |
| 39 | In Situ Measurement and Control of the Fermi Level in Colloidal Nanocrystal Thin Films during Their Fabrication. Journal of Physical Chemistry Letters, 2018, 9, 7165-7172. | 4.6 | 14 |
| 40 | Dopants and Traps in Nanocrystal-Based Semiconductor Thin Films: Origins and Measurement of Electronic Midgap States. ACS Applied Electronic Materials, 2020, 2, 398-404. | 4.3 | 13 |
| 41 | Nanocrystal Quantum Dot Devices: How the Lead Sulfide (PbS) System Teaches Us the Importance of Surfaces. Chimia, 2021, 75, 398. | 0.6 | 13 |
| 42 | In Situ Monitoring of Cation-Exchange Reaction Shell Growth on Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 24345-24351. | 3.1 | 12 |
| 43 | Simulating nanocrystal-based solar cells: A lead sulfide case study. Journal of Chemical Physics, 2019, 151, 241104. | 3.0 | 12 |
| 44 | Surface modification of semiconductor nanocrystals by a methanofullerene carboxylic acid. Journal of Materials Chemistry, 2010, 20, 8470. | 6.7 | 11 |
| 45 | Metasurface Colloidal Quantum Dot Photodetectors. ACS Photonics, 2022, 9, 482-492. | 6.6 | 11 |
| 46 | Mapping the Atomistic Structure of Graded Core/Shell Colloidal Nanocrystals. Scientific Reports, 2017, 7, 11718. | 3.3 | 10 |
| 47 | Scanning microwave microscopy and scanning capacitance microscopy on colloidal nanocrystals. Journal of Applied Physics, 2011, 109, 064313. | 2.5 | 9 |
| 48 | Galvanic Exchange in Colloidal Metal/Metal-Oxide Core/Shell Nanocrystals. Journal of Physical Chemistry C, 2016, 120, 19848-19855. | 3.1 | 9 |
| 49 | Recombination Dynamics in PbS Nanocrystal Quantum Dot Solar Cells Studied through Driftâ€“Diffusion Simulations. ACS Applied Electronic Materials, 2021, 3, 4977-4989. | 4.3 | 8 |
| 50 | A Shapeâ€Induced Orientation Phase within 3D Nanocrystal Solids. Advanced Materials, 2018, 30, e1802078. | 21.0 | 7 |
| 51 | Editorial: Colloidal Semiconductor Nanocrystals: Synthesis, Properties, and Applications. Frontiers in Chemistry, 2019, 7, 684. | 3.6 | 6 |
| 52 | R4Ir13Ge9 (R=La, Ce, Pr, Nd, Sm) and RIr3Ge2 (R=La, Ce, Pr, Nd): Crystal structures with nets of Ir atoms. Journal of Solid State Chemistry, 2012, 196, 72-78. | 2.9 | 5 |
| 53 | Synthesis of small Agâ€“Sbâ€“Te nanocrystals with composition control. Journal of Materials Chemistry C, 2020, 8, 15985-15989. | 5.5 | 5 |
| 54 | Concentration and excitation effects on the exciton dynamics of poly(3-hexylthiophene)/PbS quantum dot blend films. Nanotechnology, 2013, 24, 235707. | 2.6 | 4 |

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| 55 | Variable wavelength photocurrent mapping on PbS quantum dot: fullerene thin films by conductive atomic force microscopy. Semiconductor Science and Technology, 2011, 26, 095002. | 2.0 | 3 |
| 56 | Optical Transitions in Silver Indium Selenide Nanocrystals: Implications for Light-Emitting and Light-Imaging Applications. ACS Applied Nano Materials, 2021, 4, 11239-11248. | 5.0 | 3 |
| 57 | Searching for better X-ray and Î³-ray photodetectors: structureâ€“composition properties of the TlPb<sub>2</sub>Br<sub>5â^'x</sub>I<sub>x</sub> quaternary system. Materials Advances, 0, , . | 5.4 | 3 |
| 58 | In Situ Formation of Lithium Polyacrylate Binder for Aqueous Manufacturing and Recycling of Ni-Rich Cathodes. Journal of the Electrochemical Society, 0, , . | 2.9 | 3 |
| 59 | Engineering of Oxide Protected Gold Nanoparticles. Journal of Physical Chemistry Letters, 2022, 13, 5824-5830. | 4.6 | 3 |
| 60 | Phase transitions in germanium telluride nanoparticle phase-change materials studied by temperature-resolved x-ray diffraction. Journal of Applied Physics, 2021, 129, 095102. | 2.5 | 2 |
| 61 | AFMâ€based photocurrent imaging of epitaxial and colloidal QDs. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 426-428. | 0.8 | 1 |
| 62 | Quasistatic Dielectric Constants Of Colloidal Nanocrystals. , 2011, , . | | 0 |
| 63 | Mapping the Local Photoresponse of Epitaxial and Colloidal Quantum Dots by Photoconductive Atomic Force Microscopy. , 2011, , . | | 0 |
| 64 | High precision positioning of plasmonic nanoparticle based on damascene process. , 2012, , . | | 0 |