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Research Interests

My research investigates relationships between the composition, structure, and physical properties in a broad range of solid state inorganic compounds to develop a rational basis for functional materials design. Device fabrication is an essential part of my work to test the properties of new materials and their potential for commercialization.

Professional Appointments

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| Assistant Professor | <i>University of Georgia, Department of Chemistry August 2022 – Current</i> |
| Scientist (Crystal Growth and Device Fabrication) | <i>Actinia Inc., Next Generation Radiation Detectors Startup Company, June 2021 – July 2022</i> |
| Resident Associate | <i>Argonne National Laboratory, Materials Science Division April 2021 – May 2022</i> |
| Postdoctoral Research Fellow (Advisor: Professor Mercuri G. Kanatzidis) | <i>Northwestern University, January 2021 – July 2022</i> |
| Postdoctoral Research Fellow (Advisor: Professor Hans-Conrad zur Loye) | <i>University of South Carolina, October 2017 – December 2020</i> |
| Senior Lecturer | <i>Samara National Research University, Samara, Russia December 2015 – September 2017</i> |

Education

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| Ph.D. in Inorganic Chemistry Nizhny Novgorod State University and Samara State University, Russia Advisor: Professor Larisa B. Serezhkina | 2010 – 2015 |
| B.S. cum laude in Chemistry Samara State University, Samara, Russia | 2005 – 2010 |

Scientific Publications

* – *corresponding author*

- 108.* Valueva, A. D.; Chopra, E. M.; Long, H. A.; Novikov, S. A.; **Klepov, V. V.*** Photoluminescence Enhancement through Anion Sublattice Engineering in a Series of (dien)In(Cl_{1-x}Br_x)₆ Hybrid Halides. *Chem. Mater.*, **2026** (in revision)
- 107.* Novikov S. A.; Gabilondo, E.; Valueva, A. D.; Locklin, J.; **Klepov, V. V.*** Noncentrosymmetric hybrid gallium halides built from non-polar inorganic units. *J. Mat. Chem. C* **2026** (in revision)
- 106.* Long, H. A.; Smith, H. E.; Morrison, G.; Klepov, V. V. Compositional Tuning of Magnetic Properties in a Series of Transition Metal Site-Deficient UCo_xBi₂ and UNi_xBi₂ Phases. *Inorg. Chem.* 2026, 65 (2), 1611–1620. DOI: [10.1021/acs.inorgchem.5c05232](https://doi.org/10.1021/acs.inorgchem.5c05232) *Special issue “Quantum Materials from an Inorganic Chemistry Perspective”*.
- 105.* Solovej, J.; Valueva, A. D.; **Klepov, V. V.*** Characterization of Hybrid Material (C₂H₅NH₃)₂[SbBr₅]. *J. Chem. Crystallogr.* 2026, 56 (1), 18. DOI: [10.1007/s10870-025-01076-z](https://doi.org/10.1007/s10870-025-01076-z)
104. Thippanna, V.; Sun, X.; Sobczak, M. T.; Ramanathan, A.; Theobald, T. G.; Doran, I.; Were, J.; Yang, L.; Jaraczewski, J.; Casey, J.; **Klepov, V. V.**; Liang, L.; Nolet, S.; Mada Kannan, A. N.; Xu, X.; Song, K. Turbine-to-Textile: Upcycling Wind Turbine Blade Waste into High-Performance PAN Composite Fibers. *ACS Appl. Polym. Mater.* **2025**, 7 (21), 14188–14200. DOI: [10.1021/acsapm.5c02466](https://doi.org/10.1021/acsapm.5c02466)
- 103.* Tabatadze, M.; Valueva, A. D.; Long, H. A.; Novikov S. A.; Zhao, Y.; and **Klepov V. V.*** Cubic Cesium Lead Bromide Stabilized by Ethylammonium Incorporation. *Inorg. Chem.* **2025**, 64 (32), 16433–16440. DOI: [10.1021/acs.inorgchem.5c02183](https://doi.org/10.1021/acs.inorgchem.5c02183)
- 102.* Valueva, A.D.; Novikov S. A.; Zhang, Y.; Tisdale, H. B.; Maksimova, A. A.; Parker, M.; Reukov, V.; and **Klepov V. V.*** Noncentrosymmetric Bismuth Halide with an Exceptional Second Harmonic Generation Response in IR Region. *ACS Mater. Lett.* **2025**, 7 (8), 2814–2821. DOI: [10.1021/acsmaterialslett.5c00784](https://doi.org/10.1021/acsmaterialslett.5c00784)
101. Wood, C. C.; Patel, K. G.; Weber, V. L.; Osakwe, A. R.; Manovacia Moreno, N. P.; Broich, M. L.; Bledsoe, J. C.; Bramhall, J. A.; Klepov, V. V.; Bell, S.; Locklin, J. J.* Development of Impact Resistant Immediate Release Amorphous Solid Dispersion via Hot-Melt Extrusion and Injection Molding. *Int. J. Pharm.* **2025**, 680, 125746. DOI: [10.1016/j.ijpharm.2025.125746](https://doi.org/10.1016/j.ijpharm.2025.125746)
- 100.* Novikov, S. A.; Casey, J.; Long, H. A.; Klepov V. V.* Structural evolution of electron deficient copper chalcogenides. *CrystEngComm.* **2025**. DOI: [10.1039/D5CE00479A](https://doi.org/10.1039/D5CE00479A)
- 99.* Long, H. A.; Waldis, O. G.; Klepov, V. V. Synthesis of U_{0.92}Mn₃Si₂C Using Organic Carbon Source. *ZAAC* **2025**, 651 (10), e202500047. DOI: [10.1002/zaac.202500047](https://doi.org/10.1002/zaac.202500047)
- 98.* Long, H. A.; Duong, D.; Blawat, J.; Morrison, G.; Wu, Y.; Cao, H.; Pokhrel, N.; Parker, D.; Singleton, J.; Jin, R.; **Klepov, V. V.*** Magnetic Properties Tuning via Broad Range Site Deficiency in Square Net Material UCu_xBi₂. *J. Am. Chem. Soc.* **2025**, 147 (18), 15157–15169. DOI: [10.1021/jacs.4c18438](https://doi.org/10.1021/jacs.4c18438)
97. Keerthisinghe, N.; Morrison, G.; Breton, L. S.; Smith, M. D.; Zhang, Q.; Kirkham, M. J.; **Klepov, V. V.**; zur Loye, H.-C.* From Magnetic Chains to Sheets: The Impact of Hydrofluoric Acid Quantities in Mild Hydrothermal Synthesis on Mixed-Metal Fluoride Formation. *Chem. Mater.* **2025**, 37 (5), 2014–2025. DOI: [10.1021/acs.chemmater.4c03524](https://doi.org/10.1021/acs.chemmater.4c03524)

- 96.* Novikov, S.A.; Long, H. A.; Valueva, A.D.; **Klepov, V. V.*** Application of Voronoi Polyhedra for Analysis of Electronic Dimensionality in Halide Materials. *2024. J. Am. Chem. Soc.* **2024**, 146 (51), 35449–35461. DOI: [10.1021/jacs.4c14554](https://doi.org/10.1021/jacs.4c14554)
- 95.* Novikov, S. A.; Valueva, A. D.; **Klepov, V. V.*** Bandgap Engineering and Photoluminescence Tuning in Halide Double Perovskites. *Dalton Trans.* **2024**, 53 (30), 12442–12449. DOI: [10.1039/D4DT01420K](https://doi.org/10.1039/D4DT01420K)
94. Mirmohammadsadeghi, S.; Juhas, D.; Parker, M.; Peranidze, K.; Van Horn, D. A.; Sharma, A.; Patel, D.; Sysoeva, T. A.; **Klepov, V.**; Reukov, V. The Highly Durable Antibacterial Gel-like Coatings for Textiles. *Gels* **2024**, 10 (6), 398. DOI: [10.3390/gels10060398](https://doi.org/10.3390/gels10060398)
93. Tran, P. M; Wang, Y.; Dzikovski, B.; Lahm, M. E.; Xie, Y.; Wei, P.; **Klepov, V. V.**; Schaefer III, H. F.; Robinson, G. H.* A Stable Aluminum Tris(dithiolene) Triradical. *J. Am. Chem. Soc.* **2024**, 146 (23), 16340–16347. DOI: [10.1021/jacs.4c05631](https://doi.org/10.1021/jacs.4c05631)
- 92.* Valueva, A.D.; Novikov, S.A.; Bledsoe, J.; Cai, Y.; Maksimova, A.A.; Locklin, J.; Zhao, Y.; **Klepov, V. V.*** Cubic Halide Perovskites in the Cs(Pb_{1-x}Sn_x)(Br_{3-y}Cl_y) Solid Solutions for Crack-Free Bridgman Grown Single Crystals. *MRS Comm.* **2024** DOI: [10.1557/s43579-024-00535-6](https://doi.org/10.1557/s43579-024-00535-6) (Early Career Materials Researcher issue)
91. Berseneva, A. A.; Klepov, V. V.; Kashem, H. B.; Maksimova, A. A.; Morrison, G.; Wright, J.; Schaeperkoetter, J.; Mixture, S. T.; zur Loye, H.-C.* A Rare Bird: U⁺⁵ in Uranium Chalcogenides. *Chem Mater.* **2024**, 36 (16), 7988–8001. DOI: [10.1021/acs.chemmater.4c01440](https://doi.org/10.1021/acs.chemmater.4c01440)
90. Balvanz, A.; Safdari, M.; Zacharias, M.; Kim, D.; Welton, C.; Oriel, E. H.; Kepenekian, M.; Katan, C.; Malliakas, C. D.; Even, J.; **Klepov, V.**; Manjunatha Reddy, G. N.; Schaller, R. D.; Chen, L. X.; Seshadri, R.; Kanatzidis, M. G.* Structural Evolution and Photoluminescence Quenching across the FASn_{3-x}Br_x (x = 0–3) Perovskites. *J. Am. Chem. Soc.* **2024**, 146 (23), 16128–16147. DOI: [10.1021/jacs.4c03669](https://doi.org/10.1021/jacs.4c03669)
89. Bledsoe, J.; Crane, G.; Drewke, J.; **Klepov, V.**; Locklin, J.* Balancing Melt Solubility and Morphology in Epitaxial Nucleation: The Case of Nicotinic Acid and Poly(hydroxybutyrate-co-hydroxyhexanoate). *ACS Appl. Polym. Mater.* **2023**, DOI: [10.1021/acsapm.3c01692](https://doi.org/10.1021/acsapm.3c01692)
- 88.* Novikov, A. A.; Casey, J.; Long, H. A.; Bledsoe, J. C.; Locklin, J. J.; **Klepov, V. V.*** Electron deficiency in 2D chalcogenide NaCu₄S₃ with metallic properties. *Cryst. Growth Des.* **2023** <https://doi.org/10.1021/acs.cgd.3c00649>
87. Liu, Z.; Peters, J.; Bayikadi, K.; Klepov, V.; Pan, L.; Pandey, I.; Kanatzidis, M. G.; Wessels, B.* Defects of perovskite semiconductor CsPbBr₃ investigated via photoluminescence and thermally stimulated current spectroscopies. *J. Appl. Phys.* **2023**, 134, 245101. DOI: [10.1063/5.0177809](https://doi.org/10.1063/5.0177809)
86. De Siena, M. C.Š; **Klepov, V. V.Š**; Stepanoff, S. P.; Bayikadi, K. S.; Pan, L.; Pandey, I. R.; Karki, S.; Chung, D. Y.; Wolfe, D. E.; Kanatzidis, M. G.* Extreme γ -Ray Radiation Tolerance of Spectrometer-Grade CsPbBr₃ Perovskite Detectors. *Adv. Mater.* **2023**, 2211840. DOI: [10.1002/adma.202303244](https://doi.org/10.1002/adma.202303244) (Sequel contribution)
85. Vasileiadou, E. S.; Tajuddin, I. S.; De Siena, M. C.; **Klepov, V. V.**; Kepenekian, M.; Volonakis, G.; Even, J.; Wojtas, L.; Spanopoulos, I.; Zhou, X.; Iyer, A. K.; Fenton, J. L.; Dichtel, W. R.; Kanatzidis, M. G.* Novel 3D Cubic Topology in Hybrid Lead Halides with a Symmetric Aromatic Triammonium Exhibiting Water Stability. *Chem. Mater.* **2023**, 2303244. DOI: [10.1021/acs.chemmater.3c00164](https://doi.org/10.1021/acs.chemmater.3c00164)

84. Pan, L.; Liu, Z.; Welton, C.; **Klepov, V. V.**; Peters, J. A.; De Siena, M. C.; Benadia, A.; Pandey, I.; Miceli, A.; Chung, D. Y.; Reddy, G. N. M.; Wessels, B. W.; Kanatzidis, M. G.* Ultrahigh-Flux X-ray Detection by a Solution-Grown Perovskite CsPbBr₃ Single-Crystal Semiconductor Detector. *Adv. Mater.* **2023**, 2211840. DOI: [10.1002/adma.202211840](https://doi.org/10.1002/adma.202211840)
83. Berseneva, A. A.; **Klepov, V. V.**; Tisdale, H. B.; zur Loye, H.-C.* Flux-Assisted Polytypism in the [Na₂Cl]GaQ₂ Heterolayered Salt-Inclusion Chalcogenide Family. *CrystEngComm* **2023**, 25 (15), 2307–2312. DOI: [10.1039/D3CE00074E](https://doi.org/10.1039/D3CE00074E)
82. **Klepov, V. V.**; De Siena, M. C.; Pandey, I. R.; Pan, L.; Bayikadi, K. S.; Butun, S.; Chung, D. Y.; Kanatzidis, M. G.* Laser Scribing for Electrode Patterning of Perovskite Spectrometer-Grade CsPbBr₃ Gamma-Ray Detectors. *ACS Appl. Mater. Interfaces* **2023**, 15 (13), 16895–16901. DOI: [10.1021/acsami.3c01212](https://doi.org/10.1021/acsami.3c01212)
81. Pan, L.; Pandey, I. R.; Miceli, A.; **Klepov, V. V.**; Chung, D. Y.; Kanatzidis, M. G.* Perovskite CsPbBr₃ Single-Crystal Detector Operating at 10¹⁰ Photons s⁻¹ mm⁻² for Ultra-High Flux X-ray Detection. *Adv. Opt. Mater.* **2023**, 11 (7), 2202946. DOI: [10.1002/adom.202202946](https://doi.org/10.1002/adom.202202946)
80. Liu, Z.; Peters, J. A.; Pan, L.; **Klepov, V.**; De Siena, M.; Benadia, A.; Chung, D. Y.; Kanatzidis, M. G.; Wessels, B. W.* Investigation of Defects in Melt and Solution Grown Perovskite CsPbBr₃ Single Crystals. *Appl. Phys. Lett.* **2023**, 122 (13), 131902. DOI: [10.1063/5.0142802](https://doi.org/10.1063/5.0142802)
79. Fu, P.; Quintero, M. A.; Welton, C.; Li, X.; Cucco, B.; De Siena, M. C.; Even, J.; Volonakis, G.; Kepenekian, M.; Liu, R.; Laing, C. C.; **Klepov, V.**; Liu, Y.; Dravid, V. P.; Manjunatha Reddy, G. N.; Li, C.; Kanatzidis, M. G.* Short Aromatic Diammonium Ions Modulate Distortions in 2D Lead Bromide Perovskites for Tunable White-Light Emission. *Chem. Mater.* **2022**, 34 (21), 9685–9698. DOI: [10.1021/acs.chemmater.2c02471](https://doi.org/10.1021/acs.chemmater.2c02471)
78. Pan, L.; He, Y.; **Klepov, V. V.**; De Siena, M. C.; Kanatzidis, M. G. Perovskite CsPbBr₃ Single Crystal Detector for High Flux X-Ray Photon Counting. *IEEE Trans. Med. Imaging* **2022**, 41 (11), 3053–3061. DOI: [10.1109/TMI.2022.3176801](https://doi.org/10.1109/TMI.2022.3176801)
77. Vasileiadou, E. S.; Jiang, X.; Kepenekian, M.; Even, J.; De Siena, M. C.; **Klepov, V. V.**; Friedrich, D.; Spanopoulos, I.; Tu, Q.; Tajuddin, I. S.; Weiss, E. A.; Kanatzidis, M. G.* Thick-Layer Lead Iodide Perovskites with Bifunctional Organic Spacers Allylammonium and Iodopropylammonium Exhibiting Trap-State Emission. *J. Am. Chem. Soc.* **2022**, 144 (14) 6390–6409. DOI: [10.1021/jacs.2c00571](https://doi.org/10.1021/jacs.2c00571)
76. He, Y.; Hadar, I.; De Siena, M. C.; **Klepov, V. V.**; Pan, L.; Chung, D. Y.; Kanatzidis, M. G.* Sensitivity and Detection Limit of Spectroscopic-Grade Perovskite CsPbBr₃ Crystal for Hard X-Ray Detection. *Adv. Funct. Mater.* **2022**, 32 (24), 2112925. DOI: [10.1002/adfm.202112925](https://doi.org/10.1002/adfm.202112925)
75. Berseneva, A. A.; **Klepov, V. V.**; Pal, K.; Seeley, K.; Koury, D.; Schaeperkoetter, J.; Wright, J. T.; Mixture, S. T.; Kanatzidis, M. G.; Wolverson, C.; Gelis, A. V.; zur Loye, H.-C.* Transuranium Sulfide via the Boron Chalcogen Mixture Method and Reversible Water Uptake in the NaCuTS₃ Family. *J. Am. Chem. Soc.* **2022**, 144 (30), 13773–13786. DOI: [10.1021/jacs.2c04783](https://doi.org/10.1021/jacs.2c04783)
74. Novikov, S. A.; Lu, Y.; Zhang, W.; Halasyamani, P. S.; Hariyani, S.; Brgoch, J.; **Klepov, V. V.**; zur Loye, H.-C.; Mozharivskyy, Y.* Phosphorescence in Mn⁴⁺-Doped R⁺/R²⁺ Germanates (R⁺ = Na⁺ or K⁺, R²⁺ = Sr²⁺). *Inorg. Chem.* **2022**, 61 (24), 9364–9374. DOI: [10.1021/acs.inorgchem.2c01364](https://doi.org/10.1021/acs.inorgchem.2c01364)

73. Carone, D.; **Klepov, V. V.**; Misture, S. T.; Schaeperkoetter, J. C.; Jacobsohn, L. G.; Aziziha, M.; Schorne-Pinto, J.; Thomson, S. A. J.; Hines, A. T.; Besmann, T. M.; zur Loye, H.-C.* Luminescence and Scintillation in the Niobium Doped Oxyfluoride $\text{Rb}_4\text{Ge}_5\text{O}_9\text{F}_6\text{:Nb}$. *Inorganics* **2022**, *10* (6), 83. DOI: [10.3390/inorganics10060083](https://doi.org/10.3390/inorganics10060083)
72. Kutahyali Aslani, C.; **Klepov, V. V.**; zur Loye, H.-C.* Hydrothermal Synthesis of new Mixed-Oxoanion Materials: Rare Earth Iodate Sulfates $\text{Sm}(\text{IO}_3)(\text{SO}_4)$ and $\text{Ln}_2(\text{IO}_3)_3(\text{SO}_4)\text{OH}\cdot 3\text{H}_2\text{O}$ (Ln = Sm, Eu, Dy). *Solid State Sci.* **2022**, *129*, 106918. DOI: [10.1016/j.solidstatesciences.2022.106918](https://doi.org/10.1016/j.solidstatesciences.2022.106918)
71. Keerthisinghe, N.; Chsritian, M.S.; Berseneva, A. A.; Morrison, G.; **Klepov, V. V.**; Smith M.D.; zur Loye, H.-C.* Investigation of Metastable Low Dimensional Halometallates. *Molecules*. **2022**, *27* (1), 280. DOI: [10.3390/molecules27010280](https://doi.org/10.3390/molecules27010280)
70. Torma, A.; Li, W.; Zhang, H.; Tu, Q.; **Klepov, V. V.**; Brennan, M. C.; McCleese, C. L.; Krzyaniak, M. D.; Wasielewski, M. R.; Katan, C.; Even, J.; Holt, M. V.; Grusenmeyer, T. A.; Jiang, J.; Pachter, R.; Kanatzidis, M. G.; Blancon, J.-C.*; Mohite, A. D.* Interstitial nature of Mn^{2+} doping in 2D perovskites. *ACS Nano*. **2021**, *15* (12), 20550–20561. DOI: [10.1021/acsnano.1c09142](https://doi.org/10.1021/acsnano.1c09142)
69. Peters, J. A.; Liu, Z.; Bulgin, O.; He, Y.; **Klepov, V. V.**; De Siena, M. C.; Kanatzidis, M. G.; Wessels, B. W.* Excitons in CsPbBr_3 Halide Perovskite. *J. Phys. Chem. Lett.* **2021**, *12* (38), 9301–9307. DOI: [10.1021/acs.jpcllett.1c02397](https://doi.org/10.1021/acs.jpcllett.1c02397)
68. **Klepov, V. V.**; Pace, K. A.; Berseneva, A. A.; Felder, J. B.; Calder, S.; Morrison, G.; Zhang, Q.; Kirkham, M. J.; Parker, D. S.; zur Loye, H.-C.* Chloride reduction of Mn^{3+} in the mild hydrothermal synthesis of a charge ordered defect pyrochlore, $\text{CsMn}^{2+}\text{Mn}^{3+}\text{F}_6$, a canted antiferromagnet with a hard ferromagnetic component. *J. Am. Chem. Soc.* **2021**, *143* (30), 11554–11567. DOI: [10.1021/jacs.1c04245](https://doi.org/10.1021/jacs.1c04245)
67. Keerthisinghe, N.; Berseneva, A. A.; **Klepov, V. V.**; Morrison, G.; zur Loye, H.-C.* A Geometrically Frustrated Family of $\text{M}^{\text{II}}\text{M}^{\text{III}}\text{F}_5(\text{H}_2\text{O})_2$ Mixed-Metal Fluorides with Complex Magnetic Interactions. *Inorg. Chem.* **2021**, *60* (18), 14318–14329. DOI: [10.1021/acs.inorgchem.1c01889](https://doi.org/10.1021/acs.inorgchem.1c01889)
66. Christian, M. S.*; Pace, K. A.; **Klepov, V. V.**; Morrison, G.; zur Loye, H.-C.*; Besmann, T. M.* A Density-Functional Theory Structural Database for Discovery of Novel Actinide Waste Forms. *Cryst. Growth Des.* **2021**, *21* (9), 5100–5107. DOI: [10.1021/acs.cgd.1c00494](https://doi.org/10.1021/acs.cgd.1c00494)
65. Kutahyali Aslani, C.; **Klepov, V. V.**; Aslani, M.; zur Loye, H.-C.* Hydrothermal Synthesis of new Iodates $\text{Ln}_2(\text{IO}_3)_3(\text{IO}_4)$ (Ln=La, Nd, Pr) Containing the Tetraoxoiodate(V) Anion: Creation of Luminescence Properties by Doping with Eu, Dy, Tb. *Cryst. Growth Des.* **2021**, *21* (8), 4707–4712. DOI: [10.1021/acs.cgd.1c00545](https://doi.org/10.1021/acs.cgd.1c00545)
64. Pace, K. A.; **Klepov, V. V.**; Smith, M. D.; Williams, T.; Morrison, G.; Lauterbach, J. A.; Misture, S. T.; zur Loye, H.-C.* Hydrothermal Synthesis and Structural Investigation of a Crystalline Uranyl Borosilicate. *Inorganics* **2021**, *9* (4), 25. DOI: [10.3390/inorganics9040025](https://doi.org/10.3390/inorganics9040025)
63. Morrison, G.; **Klepov, V. V.**; zur Loye, H.-C.* Pentanary Cesium Titanyl/Titanate Silicate Oxyfluorides: Syntheses and Structures. *Solid State Sci.* **2021**, *118*, 106664. DOI: [10.1016/j.solidstatesciences.2021.106664](https://doi.org/10.1016/j.solidstatesciences.2021.106664)
62. Kutahyali Aslani, C.; Breton, L. B.; **Klepov, V. V.**; zur Loye, H.-C.* A Series of $\text{Rb}_4\text{Ln}_2(\text{P}_2\text{S}_6)(\text{PS}_4)_2$ (Ln = La, Ce, Pr, Nd, Sm, Gd) Rare Earth Thiophosphates with Two

Distinct Thiophosphate Units $[P^V S_4]^{3-}$ and $[P^{IV} S_6]^{4-}$. **2021**, 50, 1683–1689. DOI: [10.1039/DoDT03718D](https://doi.org/10.1039/DoDT03718D)

- 61.* Pace, K. A.Š; **Klepov, V. V.** Š*; Berseneva, A. A.; zur Loye, H.-C.* Covalency in Actinide Compounds. *Chem. Eur. J.* **2021**, 27 (19), 5835–5841. DOI: [10.1002/chem.202004632](https://doi.org/10.1002/chem.202004632)
60. **Klepov, V. V.**; Kocevski, V.; Besmann, T. M.; zur Loye, H.-C.* Dimensional Reduction upon Calcium Incorporation in $Cs_{0.3}(Ca_{0.3}Ln_{0.7})PS_4$ and $Cs_{0.5}(Ca_{0.5}Ln_{0.5})PS_4$. *CrystEngComm*. **2021**, 23, 831–840. DOI: [10.1039/DoCE01524E](https://doi.org/10.1039/DoCE01524E)
59. Kutahyali Aslani, C.; **Klepov, V. V.**; zur Loye, H.-C.* Flux Crystal Growth of a New $BaTa_2O_6$ Polymorph, and of the Novel Tantalum Oxyfluoride Salt Inclusion Phase $[Ba_3F]Ta_4O_{12}F$: Flux Dependent Phase Formation. *J. Solid State Chem.* **2021**, 294, 121833. DOI: [10.1016/j.jssc.2020.121833](https://doi.org/10.1016/j.jssc.2020.121833)
- 58.* Breton, L. B.Š; **Klepov, V. V.** Š*; zur Loye, H.-C.* Facile Oxide to Chalcogenide Conversion for Actinides using the Boron–Chalcogen Mixture Method. *J. Am. Chem. Soc.* **2020**, 142 (33), 14365–14373. DOI: [10.1021/jacs.oc06483](https://doi.org/10.1021/jacs.oc06483) (Šequal contribution)
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 3. Serezhkina, L. B.*; Vologzhanina, A. V.; **Klepov, V. V.**; Serezhkin, V. N. Crystal Structure of $\text{PbUO}_2(\text{CH}_3\text{COO})_4(\text{H}_2\text{O})_3$. *Crystallogr. Rep.* **2011**, 56 (1), 132–135. DOI: [10.1134/S1063774510061100](https://doi.org/10.1134/S1063774510061100)
 2. Serezhkina, L. B.*; Vologzhanina, A. V.; **Klepov, V. V.**; Serezhkin, V. N. Crystal Structure of $\text{R}[\text{UO}_2(\text{CH}_3\text{COO})_3]$ ($\text{R} = \text{NH}_4^+$, K^+ , or Cs^+). *Crystallogr. Rep.* **2010**, 55 (5), 773–779. DOI: [10.1134/S1063774510050093](https://doi.org/10.1134/S1063774510050093)

1. Serezhkina, L. B.*; Peresyphkina, E. V.; Virovets, A. V.; **Klepov, V. V.** Synthesis and Structure of $(\text{Rb}_{0.50}\text{Ba}_{0.25})[\text{UO}_2(\text{CH}_3\text{COO})_3]$. *Crystallogr. Rep.* **2010**, *55* (2), 221–223. DOI: [10.1134/S1063774510020094](https://doi.org/10.1134/S1063774510020094)

Awards and Honors

| | |
|---|-------------------|
| University of South Carolina ASPIRE research grant for postdocs (\$5,000) | 2020 |
| DAAD (German Academic Exchange Service) Scholarship, Forschungszentrum Jülich (€10,000/\$12,000) | 2013 |
| Stipendium of the President of Russian Federation (\$1,000) | 2012 |
| Award of Ministry of Education and Sciences of Samara Region for graduate students (\$2,500) and undergraduate students (\$1,000) | 2012, 2010 |

Professional Presentations

26. Department of Chemistry, University of Pittsburgh, *Pittsburgh, PA*, **2025**.
25. Klepov V. V. Chemical stabilization of cubic halide perovskites. SERMACS/SWRM meeting, Orlando, FL, October 26–29, **2025**.
24. Klepov V. V. (**invited**) Intermolecular interactions in hybrid halide compounds and their influence on the optical properties. SERMACS/SWRM meeting, Orlando, FL, October 26–29, **2025**.
23. Department of Chemistry, Jackson State University, *Jackson, MS*, **2025**.
22. Klepov V. V. (**invited**) Intermolecular interactions in hybrid halide compounds and their influence on the optical properties 22nd International Conference on Dynamical Processes in Excited States of Solids (DPC'25), Charlotte, NC, August 4–8, **2025**.
21. Klepov V. V. Energy transfer in 0D hybrid metal halide materials. North American Solid State Conference. Ames, IA, July 28–31, **2025**.
20. Department of Physics and Astronomy, University of South Carolina, *Columbia, SC*, **2025**.
19. Department of Chemistry, Louisiana State University, *Baton Rouge, LA*, **2025**.
18. Department of Chemistry, Tulane University, *New Orleans, LA*, **2025**.
17. Klepov V. V. (**invited**) Intermolecular interactions in hybrid halide compounds and their influence on the optical properties. ACS Spring, San Diego, CA, **2025**.
16. Long, H. A.; Klepov V. V. Magnetic properties tunability through the site deficiency control in $\text{UCu}_{1-x}\text{Bi}_x$. Gordon Research Conference on Solid State Chemistry. New London, NH (USA), July 21–26, **2024**.
15. Klepov V. V. (**invited**) HfCuSi_2 -type actinide bismuthides as a platform for magnetic and topological materials. North American Solid State Conference. Calgary, Canada. August 2–4, **2023**.
14. Klepov V. V.; zur Loye H.-C. NaGaS_2 – an elusive compound with dynamic water absorption and wide-ranging ion exchange properties. ACS Fall 2020 National Meeting, August 17–20, **2020**, San Francisco, CA, USA. DOI: [10.1021/scimeetings.0c07153](https://doi.org/10.1021/scimeetings.0c07153)

13. Klepov V. V.; zur Loye H.-C. Topological complexity of uranium thiophosphates. ACS Fall 2020 National Meeting, August 17–20, **2020**, San Francisco, CA, USA.
12. Klepov, V. V.; zur Loye, H.-C. Magnetic properties of uranium(IV) fluorides and thiophosphates. North American Solid State Conference. Golden, CO (USA), July 31 – August 2, **2019**.
11. Klepov, V. V.; zur Loye, H.-C. New Families of Uranium(IV) Fluoride Materials. Gordon Research Seminar and Conference on Solid State Chemistry. New London, NH (USA), July 21–27, **2018**.
10. Klepov V. V.; zur Loye H.-C. New families of uranium(IV) fluoride materials. The 70th Southeastern Regional meeting of the American Chemical Society, October 31 – November 3, **2018**, Augusta, GA, USA, P.107.
9. Klepov, V. V.; Sergeeva, O. A.; Vologzhanina, A. V.; Pushkin, D. V.; Serezhkina, L. B.; Serezhkin, V. N. First Uranyl acrylate complexes – structural diversity and properties. 14th Conference of the Asian Crystallographic Association, December 4–7, **2016**. Hanoi, Vietnam. P. 38.
8. Klepov, V. V.; Yu, N.; Alekseev, E. V. Synthesis and structure of new thorium and uranyl arsenates. 8th National Crystal Chemistry Conference. Suzdal (Russia), May 30 – June 3, **2016**.
7. Yu, N.; Alekseev, E. V.; Klepov, V. V. Thorium arsenates from high temperature solid state reactions. Deutsche Gesellschaft für Kristallographie, 22. Jahrestagung, March 17–20, **2014**. Berlin, Germany. P. 123.
6. Karasev, M. O.; Klepov, V. V.; Peresypkina, E. V.; Virovets, A. V. New acetate-containing complexes of uranyl. 7th National Crystal Chemistry Conference. Suzdal (Russia), June 17–21, **2013**.
5. Klepov, V. V.; Vologzhanina, A. V.; Pushkin, D. V.; Serezhkina, L. B. Novel acetate complexes of uranyl and strontium. 7th Russian conference on radiochemistry “Radiochemistry-2012”. Dimitrovgrad (Russia). October 15–19, **2012**.
4. Klepov, V. V.; Serezhkina, L. B.; Vologzhanina, A. V.; Serezhkin, V. N. Synthesis, crystal structure and properties of $[\text{Be}(\text{H}_2\text{O})_4][\text{UO}_2(\text{CH}_3\text{COO})_3]_2$. XXII Congress and General Assembly of the International Union of Crystallography. Madrid, August 22–30, **2011**.
3. Klepov, V. V.; Peresypkina, E. V.; Virovets, A. V.; Serezhkina, L. B.; Serezhkin, V. N. Synthesis and structure of $[\text{Cr}_3\text{O}(\text{CH}_3\text{COO})_6(\text{H}_2\text{O})_3\text{UO}_2(\text{CH}_3\text{COO})_3] \cdot 3\text{H}_2\text{O}$. 6th National Crystal Chemistry Conference. Suzdal (Russia), June 1–4, **2011**.
2. Klepov, V. V.; Serezhkina, L. B.; Vologzhanina, A. V. Synthesis, structure and some properties of $[\text{PbUO}_2(\text{CH}_3\text{COO})_4(\text{H}_2\text{O})_3]$. 2nd Conference for young scientists “Diffraction methods of investigation: from molecules to crystals and nanomaterials”. Chernogolovka (Russia), June 28 – July 1, **2010**.
1. Serezhkina, L. B.; Klepov, V. V.; Vologzhanina, A. V.; Serezhkin, V. N. Synthesis and structure of new cubic triacetatouranylates. 6th Russian Radiochemistry Conference «Radiochemistry –2009», Moscow, October 12–16, **2009**.

Teaching experience

Department of Chemistry, University of Georgia

- CHEM3400 Modern Inorganic Chemistry Fall **2022**, Fall **2023**
- CHEM8290 Solid State Materials Chemistry Spring **2024**
- CHEM8290 X-ray Crystallography Spring **2025**

Department of Chemistry, University of South Carolina

- X-ray crystallography (2-week course for graduate students) Fall **2019**, **2020**

Teaching assistant/Senior lecturer

2010 – 2015/2015 – 2017

Department of Chemistry, Samara State University

- Crystal Chemistry and Crystallography (lectures and lab work) **2015 – 2017**
- General and Inorganic Chemistry (lab course) **2011 – 2012, 2014 – 2017**
- Group Theory (lecture and lab course) **2010 – 2013, 2014 – 2017**
- Solid State Chemistry (lab course) **2015 – 2017**
- Solid State Chemistry (lab course) **2014 – 2017**
- Solid State Chemistry (lab course) **2014 – 2017**

Professional Activities

Conference sessions “Innovations in Inorganic Materials from Nanocrystals to Bulk Crystal Growth” and “Recent Advances in Hybrid Semiconductors” organizer for SERMACS/SWRM meeting, Orlando, FL, October 26–29, **2025**.

Manuscripts reviewed for *Journal of American Chemical Society*, *Angewandte Chemie*, *Advanced Optical Materials*, *Advanced Functional Materials*, *Small*, *Chemistry of Materials*, *ChemComm*, *Inorganic Chemistry*, *Journal of Alloys and Compounds*, *Crystal Growth & Design*, *Dalton Transactions*, *CrystEngComm*, *Chemistry – European Journal*, *Frontiers in Chemistry*, *Journal of Solid State Chemistry*, *Solid State Sciences*, *Zeitschrift für anorganische und allgemeine Chemie*, *Radiochimica Acta*, *Journal of Molecular Structure*, *ACS Omega*.