List of published scientific papers and conferences

ARTICLES

Publications in refereed Institute for Scientific Information (ISI) database (with full name of the publication and DOI link).

1. R. Sereika, P. Liu, B. Kim, S. Kim, J. Zhang, B. Chen, K. Yamaura, C. Park, C. Franchini, Y. Ding, H-k. Mao. *Aberrant electronic and structural alterations in pressure tuned perovskite $NaOsO_3$*, npj Quantum Mater. **5**, 66 (2020). DOI: 10.1038/s41535-020-00269-3
2. R. Sereika, C. Park, C. Kenney-Benson, S. Bandaru, N. J. English, Q. Yin, H. Lei, N. Chen, C.-J. Sun, S. M. Heald, J. Ren, J. Chang, Y. Ding, H-k. Mao, *Novel Superstructure-Phase Two-Dimensional Material 1T-VSe_2 at High Pressure*, J. Phys. Chem. Lett. **11** (2), 380 – 386 (2020). DOI: 10.1021/acs.jpclett.9b03247
3. B. Chen, E. M. Pärschke, W.-C. Chen, B. Scoggins, B. Li, M. Balasubramanian, S. Heald, J. Zhang, H. Deng, R. Sereika, Y. Sorb, X. Yin, Y. Bi, K. Jin, Q. Wu, C.-C. Chen, Y. Ding, H-k. Mao, *Probing Cerium 4f States across the Volume Collapse Transition by X-ray Raman Scattering*, J. Phys. Chem. Lett. **10** (24), 7890 – 7897 (2019). DOI: 10.1021/acs.jpclett.9b02819
4. R. Sereika, R. Žaltauskas, V. Lapeika, S. Stanionytė, R. Juškėnas, *Structural Changes in Chlorine-Substituted SbSI*, J. Appl. Phys. **126**, 114101 (2019). DOI: 10.1063/1.5117334
5. J. Zhang, D. Yan, S. Yesudhas, H. Deng, H. Xiao, B. Chen, R. Sereika, X. Yin, C. Yi, Y. Shi, Z. Liu, E. M. Pärschke, C.-C. Chen, J. Chang, Y. Ding, H-k. Mao, *Lattice Frustration in Spin-Orbit Mott Insulator $Sr_3Ir_2O_7$ at High Pressure*, npj Quantum Mater. **4**, 23 (2019). DOI: 10.1038/s41535-019-0162-3
6. R. Sereika, K. Yamaura, Y. Jia, S. Zhang, C. Jin, H. Yoon, M. Y. Jeong, M. J. Han, D. L. Brewe, S. M. Heald, S. Sinogeikin, Y. Ding, H-k. Mao, *Anomalous behavior of the quasi-one-dimensional quantum material Na_2OsO_4 at high pressure*, Mater. Today Phys. **8**, 18 – 24 (2019). DOI: 10.1016/j.mtphys.2018.12.001
7. R. Sereika, W. Wu, C. Park, C. Kenney-Benson, D. L. Brewe, S. M. Heald, J. Zhang, S. Yesudhas, H. Deng, B. Chen, J. Luo, Y. Ding, H-k. Mao, *Prolonged mixed phase induced by high pressure in MnRuP*, Phys. Rev. B **97**, 214103 (2018). DOI: 10.1103/PhysRevB.97.214103
8. R. E. Brandt, J. R. Poindexter, P. Gorai, R. C. Kurchin, R. L. Z. Hoye, L. Nienhaus, M. W. B. Wilson, J. A. Polizzotti, R. Sereika, R. Žaltauskas, L. C. Lee, J. L. MacManus-Driscoll, M. Bawendi, V. Stevanović, T. Buonassisi, *Searching for "Defect-Tolerant" Photovoltaic Materials: Combined Theoretical and Experimental Screening*, Chem. Mater. **29** (11), 4667 – 4674 (2017). DOI: 10.1021/acs.chemmater.6b05496
9. A. Audzijonis, R. Žaltauskas, R. Sereika, V. Lapeika, L. Žigas, *Birefringence of SbSI and SbSeI crystals at the region of antiferroelectric phase transition*, Phase Transit. **90** (3), 312 – 316 (2017). DOI: 10.1080/01411594.2016.1192168
10. R. Sereika, S. Kaciulis, A. Mezzi, M. Brucale, *Chemical composition study of vanadium pentoxide xerogels doped by bovine albumin*, Surf. Rev. Lett. **23** (6), 1650058 (2016). DOI: 10.1142/S0218625X1650058X
11. A. Audzijonis, R. Sereika, L. Žigas, R. Žaltauskas, *Dielectric and electrical properties of SbSI and SbSeI single crystals in the region of antiferroelectric phase transition*, J. Phys. Chem. Solids. **83**, 117 – 120 (2015). DOI: 10.1016/j.jpcs.2015.04.003
12. A. Audzijonis, L. Žigas, R. Žaltauskas, R. Sereika, *Origin of ferroelectric phase transition in SbOxS1−xI mixed crystals*, Int. J. Mod. Phys. B. **29** (23), 1550167 (2015). DOI: 10.1142/S0217979215501672

13. R. Rimeika, A. Sereika, D. Čiplys, R. Sereika, V. Bondarenka, M. Shur, *Acoustoelectric investigation of $V_2O_5 \cdot nH_2O$ thin film transition from wet gel to xerogel*, J. Non-Cryst. Solids **425** (1), 24 – 27 (2015). DOI: 10.1016/j.jnoncrysol.2015.05.029
14. R. Sereika, V. Bondarenka, R. Rimeika, A. Sereika, D. Čiplys, *Impact of humidity on surface acoustic wave propagation in vanadium pentoxide xerogel - lithium niobate structure*, Jpn. J. Appl. Phys. **53** (11), 118004 (2014). DOI: 10.7567/JJAP.53.118004
15. V. Bondarenka, V. Jasulaitienė, R. Sereika, A. Stirkė, *Sol–gel synthesis and XPS study of vanadium pentoxide xerogels intercalated with glucose*, J. Sol-Gel Sci. Technol. **71** (3), 385 – 390 (2014). DOI: 10.1007/s10971-014-3385-6
16. E. Baškys, V. Bondarenka, S. Grebinskij, M. Senulis, R. Sereika, *XPS study of sol-gel produced lanthanum oxide thin films*, Lith. J. Phys. **54** (2), 120 – 124 (2014). DOI: 10.3952/physics.v54i2.2921
17. A. Audzijonis, R. Sereika, *On the heat capacities of SbSI and SbSBr*, Ferroelectr. Lett. **41**, 51 – 55 (2014). DOI: 10.1080/07315171.2014.908687
18. A. Audzijonis, L. Žigas, R. Sereika, R. Žaltauskas, *Origin of ferroelectric phase transition in $SbSCl_xI_{1-x}$ mixed crystals*, Int. J. Mod. Phys. B. **28** (2), 1450209 (2014). DOI: 10.1142/S0217979214502099
19. A. Audzijonis, L. Žigas, R. Žaltauskas, R. Sereika, *Reflection and vibrational spectra of SbSCl(0.1)I(0.9) crystals in the ferroelectric phase-transition region*, J. Phys. Chem. Solids **75** (2), 194 – 197 (2014). DOI: 10.1016/j.jpcs.2013.09.012
20. A. Audzijonis, R. Sereika, *The thermodynamic functions of ferroelectric and paraelectric SbSI*, Phase Transit. **87** (5), 509 – 514 (2014). DOI: 10.1080/01411594.2013.853063
21. A. Audzijonis, R. Sereika, *Electronic structure and electron charge density in the interatomic bonds of BiSBr and BiSeBr crystals*, Int. J. Mod. Phys. B. 27 (23), 1350122 (2013). DOI: 10.1142/S0217979213501221
22. A. Audzijonis, R. Sereika, R. Žaltauskas, *Birefringence and refractive indices of ferroelectric SbSI*, Phase Transit. **85** (6), 542 – 552 (2012). DOI: 10.1080/01411594.2011.619905
23. A. Audzijonis, L. Žigas, R. Sereika, A. Kvedaravičius, *The nature of the ferroelectric phase transition in the modified SbSI ceramics*, Ferroelectrics **425** (1), 45 – 53 (2011). DOI: 10.1080/00150193.2011.634743
24. A. Audzijonis, R. Sereika, R. Žaltauskas, A. Rėza, *Optical properties of BiSBr and BiSeBr crystals*, J. Phys. Chem. Solids 72 (12), 1501 – 1505 (2011). DOI: 10.1016/j.jpcs.2011.09.010
25. A. Audzijonis, R. Sereika, L. Žigas, R. Žaltauskas, A. Kvedaravičius, *Lattice dynamics of ferroelectric SbSBr crystal*, Ferroelectrics **413**, 434 – 442 (2011). DOI: 10.1080/00150193.2011.532076
26. A. Audzijonis, L. Žigas, A. Kvedaravičius, R. Sereika, R. Žaltauskas, A. Čerškus, *Investigation of vibration spectrum ferroelectric semiconductor SbSBr nanowire*, Physica B: Condensed Matter. **405** (17), 3599 – 3604 (2010). DOI: 10.1016/j.physb.2010.05.048
27. A. Audzijonis, L. Žigas, G. Gaigalas, R. Sereika, B. Žygaitienė, *Density functional calculation of the photoelectron emission spectra of BiSCl crystal and molecular clusters*, J. Cluster Sci. **21** (4), 577 – 589 (2010). DOI: 10.1007/s10876-010-0292-z
28. A. Audzijonis, R. Sereika, *The thermodynamic functions of SbSBr crystal*, Phase Transit. **83** (5), 389 – 395 (2010). DOI: 10.1080/01411594.2010.485505
29. A. Audzijonis, R. Žaltauskas, R. Sereika, L. Žigas, A. Rėza, *Electronic structure and optical properties of BiSI crystal*, J. Phys. Chem. Solids **71** (6), 884 – 891 (2010). DOI: 10.1016/j.jpcs.2010.03.042
30. A. Audzijonis, R. Sereika, R. Žaltauskas, L. Žigas, *Optical spectra of bismuth sulfochloride crystals*, Phys. Status Solidi B **247** (1), 176 – 181 (2010). DOI: 10.1002/pssb.200945288

31. A. Audzijonis, G. Gaigalas, L. Žigas, R. Sereika, R. Žaltauskas, D. Balnionis, A. Rėza, *Electronic structure and optical properties of BiSeI crystal*, Phys. Status Solidi B **246** (7), 1702 – 1708 (2009). DOI: 10.1002/pssb.200945110
32. A. Audzijonis, R. Sereika, R. Žaltauskas, *Antiferroelectric phase transition in SbSI and SbSeI crystals*, Solid State Commun. **147** (3/4), 88 – 89 (2008). DOI: 10.1016/j.ssc.2008.05.008
33. A. Audzijonis, G. Gaigalas, L. Žigas, R. Sereika, A. Čerškus, A. Pauliukas, R. Žaltauskas, *Investigation of the Vibrational Spectra of a* $SbSI(Sb_2S_3)_{0.15}$ *Crystals in Harmonic and Anharmonic Approximations*, Ferroelectrics **377**, 22 – 35 (2008). DOI: 10.1080/00150190802523529
34. A. Audzijonis, L. Žigas, R. Žaltauskas, R. Sereika, A. Pauliukas, *Origin of the optical anomalies near the ferroelectric phase transition in SbSI and SbSBr crystals*, Ferroelectr. Lett. **35**, 51 – 61 (2008). DOI: 10.1080/07315170802352985
35. A. Audzijonis, A. Rėza, R. Žaltauskas, L. Žigas, R. Sereika, C. Paškevič, A. Pauliukas, *Spectroscopic ellipsometry studies of ferroelectric* $SbSe_xS_{1-x}I$ *crystals*, Ferroelectrics **366**, 45 – 54 (2008). DOI: 10.1080/00150190802363124
36. P. Pipinys, R. Sereika, *Comment on 'Conductivity of single* $Mo_6S_{9-x}I_x$ *molecular nanowire bundles'*, Nanotechnology **18** (50), 508001 – 508002 (2007). DOI: 10.1088/0957-4484/18/50/508001
37. A. Audzijonis, R. Sereika, V. Lapeika, R. Žaltauskas, *Current mechanism in SbSeI crystals based on phonon-assisted tunnelling emission*, Phys. Status Solidi B **244** (9), 3260 – 3264 (2007). DOI: 10.1002/pssb.200642438
38. P. Pipinys, A. Audzijonis, R. Sereika, R. Žaltauskas, V. Lapeika, *Current Mechanism in* $SbS_{1-x}Se_xI$ *Crystals*, Ferroelectrics **350**, 111 – 117 (2007). DOI: 10.1080/00150190701369966

Other journals and proceedings.

1. R. Sereika, *Kuo ypatingos grafeno tipo medžiagos: neįprasti dvimačių medžiagų struktūriniai pokyčiai esant aukštam slėgiui* (Article in Lith. language). [Electronic resource]: web site www.technologijos.lt (2020-03-25).
2. R. Sereika, R. Bobinienė, V. Semaška, D. Gudavičiūtė, D. Vencius, *Chemical composition study of standard chicken serum*, Vet. Med. Zoot. 74 (96), 55 – 58 (2016). Web link: vetzoo.lsmuni.lt/2016-74-en
3. R. Rimeika, R. Sereika, D. Čiplys, V. Bondarenka, A. Sereika, M. Shur, *Contactless monitoring of conductivity changes in vanadium pentoxide xerogel layers using surface acoustic waves*, Physics Procedia 70, 135 – 138 (2015). DOI: 10.1016/j.phpro.2015.08.061
4. V. Bondarenka, R. Sereika, *XPS Study of Sol–gel Synthesized Vanadium-Titanium-Hydroquinone Oxide Bronze Films*, Int. Lett. Chem., Phys. Astron. 54, 201 – 207 (2015). DOI: 10.18052/www.scipress.com/ILCPA.54.201
5. V. Bondarenka, R. Sereika, A. Mironas, S. Grebinskij, *Xerogels of Ammonium Polyvanadatomolybdate as Starting Material for Ammonia Gas Sensors*, Int. Lett. Chem., Phys. Astron. 50, 71 – 79 (2015). DOI: 10.18052/www.scipress.com/ILCPA.50.71
6. R. Sereika, *Metalų-bioorganinės struktūros – perspektyvi dirva naujoms idėjoms* (Article in Lith. Language). [Electronic resource]: web site www.technologijos.lt (2015-03-17).
7. R. Sereika, *Zolių-gelių metodas – nesudėtingas ir patogus būdas įvairioms medžiagoms gauti* (Article in Lith. language). [Electronic resource]: web site www.technologijos.lt (2014-08-12).
8. P. Pipinys, A. Rimeika, R. Sereika, *Phonon-assisted Tunneling Theories Applied to Electronic Conduction in Nanowires of inorganic compounds*, Physics, chemistry and application of nanostructures: reviews and short notes: proceedings of the international

conference on nanomeeting 2009: [May 26-29, 2009, Minsk, Belarus]. ISBN 9789814280358 P. 48 – 51. DOI: 10.1142/9789814280365_0010

9. A. Audzijonis, G. Gaigalas, L. Žigas, R. Sereika, R. Žaltauskas, A. Rėza, *Optical Properties of BiSeI Crystals*, ISI proceedings. Radiation interaction with material and its use in technologies 2008: international conference: Kaunas, Lithuania 24-27 September. ISSN 1822-508X p. 258 – 262.

BOOKS AND BOOK CHAPTERS

1. A. Audzijonis, L. Žigas, R. Sereika, R. Žaltauskas, *Electronic structure and piezoelectric properties of SbSI crystals*, Piezoelectric materials / edited by Toshio Ogawa. ISBN 9789535125587 P. 83-126, 2016. Open access. DOI: 10.5772/61563

CONFERENCE MATERIALS

1. R. Sereika, K. Yamaura, C. Jin, M. J. Han, Y. Ding, *Study of Magnetically Silent Na_2OsO_4 Under High Pressure*, STAC-11: The 11th International Conference on the Science and Technology for Advanced Ceramics. Solid State Chemistry section. Japan, Tsukuba, 9-11 July, 2019, 2p-202B-01. (Invited speaker)
2. R. Sereika, K. Yamaura, C. Jin, M. J. Han, Y. Ding, *Study of Magnetically Silent Na_2OsO_4 Under High Pressure*, Emergent Materials and Devices: Electronic Structures and Properties. Nature conference: China, Chengdu, 12-14 April, 2019, A011.
3. R. Sereika, K. Yamaura, Y. Jia, S. Zhang, C. Jin, H. Yoon, M. Y. Jeong, M. J. Han, D. L. Brewe, S. M. Heald, S. Sinogeikin, Y. Ding, H-k. Mao, *Anomalous behavior of the quasi-one-dimensional quantum material Na_2OsO_4 at high pressure*, The European Materials Research Society 2018 Fall meeting. Symposium V, "High pressure synthesis & characterization of functional materials": Poland, Warsaw, 17-20 September, 2018, A.5a.1. (Invited speaker)
4. R. Sereika, W. Wu, J. Zhang, S. Yesudhas, H. Deng, B. Chen, Y. Ding, *A new phase transition of MnRuP under high pressure*, The 26th International Conference on High Pressure Science & Technology (AIRAPT 26): China, Beijing, 18-23 August, 2017, P47.
5. V. Sirvydis, R. Sereika, R. Bobinienė, V. Semaška, D. Gudavičiūtė, D. Vencius, *Chemical composition study of standard chicken serum*, WPC2016. XXV world's poultry congress 2016: China, Beijing, 5-9 September, 2016, p. 173.
6. R. Sereika, V. Bondarenka, *XPS study of sol-gel synthesized vanadium-titanium-hydroquinone oxide bronze films*, North American Solid State Chemistry Conference (NASSCC): USA, Florida, Tallahassee, 22-24 May, 2015, p. 140.
7. R. Rimeika, R. Sereika, D. Čiplys, V. Bondarenka, A. Sereika and M. Shur, *Contactless monitoring of conductivity changes in vanadium pentoxide xerogel layers using surface acoustic waves*, International Congress on Ultrasonics: France, Metz, 11-14 May, 2015, p. 127.
8. V. Bondarenka, S. Kačiulis, A. Mezzi, R. Sereika, *XPS core level spectra of hematoporphyrin*, 41st Lithuanian National Physics Conference, 17-19 June, ISBN 9786099551128. Vilnius, Lithuania, 2015, P. 300.
9. R. Sereika, V. Bondarenka, *An ab-initio study of the half-metallic antiferromagnetic NaV_2O_4*, 3rd International Conference on Advanced Materials Modelling: France, Nantes, 7-9 July, 2014, p. 156-157.
10. R. Sereika, V. Bondarenka, S. Kačiulis, A. Mezzi, *Chemical composition study of vanadium pentoxide xerogels doped by bovine albumin*, 4th International Colloids Conference: Surface Design & Engineering: Spain, Madrid, 15-18 June, 2014, P2.66.

11. A. Audzijonis, R. Sereika, L. Žigas, R. Žaltauskas, *Electron charge density investigation in the interatomic bonds of BiSBr and BiSeBr crystals*, 40th Lithuanian National Physics Conference, 10-12 June, ISBN 9786094592102. Vilnius, Lithuania, 2013, P. 40.
12. A. Audzijonis, L. Žigas, R. Žaltauskas, R. Sereika, A. Kvedaravičius, V. Šiaudvytis, *Investigation of the optical properties of SbSeBr*, 39th Lithuanian National Physics Conference, 6-8 October, ISBN 9789955634645. Vilnius, Lithuania, 2011, P. 40.
13. R. Sereika, A. Audzijonis, R. Žaltauskas, L. Žigas, *Phonon dispersion of SbSBr crystal*, 3rd Workshop on ab-initio phonon calculations: [Poland], Cracow, 2-4 December, 2010, p. 36.
14. A. Audzijonis, L. Žigas, R. Sereika, R. Žaltauskas, A. Kvedaravičius, *Photoelectron emission spectra of BiSCl crystal and molecular cluster*, Radiation interaction with material and its use in technologies 2010: 3rd international conference: Kaunas, Lithuania 20-23 September: program and materials. ISSN 1822-508X p. 122-124.
15. R. Sereika, A. Budinavičius, S. Garunkštis, *First principles density functional calculations of electronic structure and optical properties in BiSBr and BiSeBr crystals*, Laisvieji skaitymai 2010: 53rd scientific conference for young students of physics and natural sciences [2010 March 24-27, 2010, Vilnius, Lithuania] P. 51-52.
16. A. Audzijonis, R. Sereika, R. Žaltauskas, A. Rėza, *Optical properties of the BiSI crystal*, 38th Lithuanian National Physics Conference, 8-10 June, ISBN 9789955334477. Vilnius, Lithuania, 2009, P. 244.
17. A. Audzijonis, G. Gaigalas, R. Sereika, L. Žigas, R. Žaltauskas, *Electronic structure of the BiSI crystal*, 38th Lithuanian National Physics Conference, 8-10 June, ISBN 9789955334477. Vilnius, Lithuania, 2009, P. 44.
18. R. Sereika, *Elektron-fononinės sąveikos temperatūrinė priklausomybė paraelektriniuose ir feroelektriniuose puslaidininkiuose*, Laisvieji skaitymai 2008: 51st scientific conference for young students of physics and natural sciences, 4 April, Vilnius, Lithuania, p. 93-95.
19. A. Audzijonis, G. Gaigalas, L. Žigas, R. Sereika, A. Čerškus, A. Pauliukas, R. Žaltauskas, *Ab initio investigation of the vibrational spectra of a* $SbSI(Sb_2S_3)_{0.15}$ *crystals in harmonic approximation*, 2nd Workshop on ab-initio phonon calculations: [Poland], Cracow, 6-8 December, 2007, p. 62.
20. R. Sereika, A. Audzijonis, *Electron-phonon interaction in BiSeI and BiSI crystals*, 12th International Conference on Phonon Scattering in Condensed Matter: [Paris, France, July 15-20, 2007]. Paris: Institut des Nanosciences de Paris, 2007, p. 141-142.
21. R. Sereika, *Current mechanism in SbSeI crystals based on phonon-assisted tunneling emission*, Laisvieji skaitymai 2007: 50th scientific conference for young students of physics and natural sciences, Vilnius, 13 April, 2007. Vilnius: Vilnius University. Faculty of Physics, 2007, p. 41-42.
22. A. Audzijonis, G. Gaigalas, L. Žigas, R. Žaltauskas, A. Pauliukas, A. Čerškus, A. Kvedaravičius, R. Sereika, *Teorinis BiSeI molekulinio klasterio valentinių juostų PES tyrimas*, 37th Lithuanian National Physics Conference, 11-13 June, ISBN 9789955330301. Vilnius, Lithuania, 2007, p. 218.
23. A. Audzijonis, C. Klingshirn, L. Žigas, A. Pauliukas, R. Žaltauskas, A. Čerškus, A. Kvedaravičius, R. Sereika, *Investigation of the vibrational spectrum of SbSeI crystals*, Radiation interaction with material and its use in technologies 2006: International conference, 28-30 September, ISSN 1822-508X. Kaunas, Lithuania, 2006, p. 202-207.