

# Irina Zhuravleva

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## Employment History

Assistant Professor <b>Department of Astronomy and Astrophysics, University of Chicago</b>	Oct 2018 - Present USA
Research Associate Scientist <b>KIPAC, Department of Physics, Stanford University</b>	Dec 2017 - Aug 2018 USA
Postdoctoral Researcher <b>KIPAC, Department of Physics, Stanford University</b>	Dec 2012 - Nov 2017 USA
Postdoctoral Researcher <b>Max Planck Institute for Astrophysics</b>	Nov 2011 - Nov 2012 Germany
IMPRS Graduate Student <b>Max Planck Institute for Astrophysics</b>	Sep 2008 - Oct 2011 Germany

Additional research experience: ISAS/JAXA (Japan, Mar 2016), Universidad Andrés Bello (Chile, Mar 2012), Kavli Institute for Theoretical Physics (USA, Mar - Apr 2011), Space Research Institute (Russia, Jul 2007)

Additional data science experience: fellow at the Insight data science program (Palo Alto, CA, Jan 2018)

## Education

Ph.D., <i>summa cum laude</i> <b>Ludwig-Maximilian University and Max Planck Institute for Astrophysics</b>	Sep 2008 - Oct 2011 Germany
M.Sc. <b>Saint-Petersburg State University, Department of Mathematics and Mechanics</b>	Sep 2003 - Jun 2008 Russia

## Prizes and Fellowships

NASA Postdoctoral Position Fellowship, USA (declined)	Feb 2018
The Silicon Valley Insight Data Science Fellowship, USA	Jan 2018
The Ernest Rutherford Fellowship, Oxford University, STFC, UK (declined)	Jul 2016
Otto Hahn Medal prize of the Max Planck Society, Germany	Jun 2013
International Max Planck Research School fellowship, Germany	Sep 2008

## Publications in Refereed Journals

49+ publications (see below), h-index=25/24 (Google Scholar/ADS)

## Grant Awards as Principle Investigator

Clare Boothe Luce award	Oct 2018
NASA XARM Participating Scientist Program	Mar 2018
XMM-Newton Cycle 17, large program proposal, awarded time: 386 ks	Dec 2017
Chandra Cycle 18, archive/theory proposal	Jul 2016
Chandra Cycle 17, large project proposal, awarded time: 1 Ms (the largest award in the Cycle)	Jul 2015
Chandra Cycle 15, archive/theory proposal,	Jul 2013
Co-I in multiple observational/theory proposals (Chandra, ALMA, XMM-Newton, MUSTANG-2, JVLA)	

## Professional Service

Remote reviewer of the NASA Astrophysics Small Explorers and Missions of Opportunity competition	Oct 2019
SOC member of the COSPAR session on energy extraction from SMBHs	Fall 2019
Panelist for the Chandra peer review	June 2019
Chair of the diffuse extragalactic team within the XRISM collaboration	Since 2018
US-based Participating Scientist for the XRISM Observatory	Since 2018
SOC member of the conference "SnowCluster2018", Utah, USA	Fall 2017
Co-leader of the Hitomi science working group (radiative transfer)	Since 2016
Member of Lynx science working groups (plasma physics, AGN feedback)	Since 2016
Member of Athena science working group (AGN feedback)	Since 2016
Supervision of graduate students	Since 2015
Organizer of the workshop "Inhomogeneities in the Intracluster Plasma", Stanford, USA	Jul 2014
Member of ASTRO-H Science Working Group	Since 2014
Manuscript reviewer: MNRAS, Nature, ApJ, A&A	Since 2012
LOC member of the conference "X-ray Sky: from Stars and Black Holes to Cosmology", Kazan, Russian	Sep 2012
LOC member of the conference "Galaxy Clusters: Observations, Physics and Cosmology", Garching, Germany	Jul 2010

## Teaching

Graduate Research Seminar (fall 2019)  
Galaxies (spring 2020)

## Students (Co-)Mentorship

Anna Ogorzalek, Stanford University, 2015 - 2018  
Mandy Chen, University of Chicago, 2019 - present

## Committees and Appointments

Graduate admission (2018-2019, 2019-2020)  
Astro Lunch (2019-2020)  
Faculty Search Subcommittee (2019-2020)  
Equity and Inclusion Council (2018-2019, 2019-2020)  
Graduate Students Mentorship (2019-2020)  
Astrophysics Colloquium (2013-2014, 2014-2015, 2015-2016)

## Press Releases and Public Outreach (selected)

Multiple press releases, including: UChicago (Jun 2019), Stanford (Jul 2016), SLAC (May 2016), NASA (Oct 2014, Jun 2019)  
Participant of the outreach event "Dark Universe" in California Academy of Sciences, San Francisco, CA (Feb 2014)  
"Talk to scientist" outreach program after public lectures at SLAC, Stanford, CA (May 2013, Dec 2013, Nov 2017)

## List of Contributed and Invited Talks

52. **Invited Speaker**, Informal Astrophysics Seminar, Institute for Advanced Study, Princeton, NJ, Dec 12, 2019
51. **Seminar Speaker**, Chalk Talk, University of Chicago, Chicago, IL, Oct 29, 2019
50. **Invited Solicited Talk**, 61th Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL, Oct 21-25, 2019
49. **Invited Talk**, Connecting Micro and Macro Scales in Astrophysical Plasmas, Santa Barbara, CA, Sep 9-12, 2019
48. **Invited Speaker**, CGM Seminar, UC Berkeley, Berkeley, CA, Jul 19, 2019
47. **Contributed Talk**, XRISM collaboration meeting, JAXA, Tokyo, Japan, May 14-17, 2019
46. **Invited Speaker**, Astronomy Lunch Seminar, University of Waterloo, Waterloo, Canada, Apr 17, 2019
45. **Invited Speaker**, CfA Galaxies and Cosmology seminar, CfA/Harvard, Cambridge, MA, Apr 2, 2019
44. **Invited Speaker**, CfA Galaxy Clusters seminar, CfA/Harvard, Cambridge, MA, Apr 2, 2019
43. **Invited Talk**, Physics of the Intracluster Medium: Theory and Computation, Budapest, Hungary, Mar 4 - 6, 2019
42. **Invited Talk**, High-energy Astrophysics Today and Tomorrow, Moscow, Russia, Dec 18 - 21, 2018
41. **Invited Talk**, Perseus in Sicily: from black hole to cluster outskirts, Noto, Italy, May 14 - 18, 2018
40. **Invited Speaker**, Caltech, Pasadena, CA, Apr 20, 2018
39. **Invited Colloquium Speaker**, the University of Chicago, Chicago, IL, Mar 13, 2018
38. **Invited Colloquium Speaker**, the University of Montreal, Montreal, Canada, Feb 28, 2018
37. **Invited Speaker**, MPA High Energy seminar, Garching, Germany, Nov 3, 2017
36. **Invited Talk**, Diffuse Synchrotron Emission in Clusters of Galaxies, Leiden, the Netherlands, Oct 23 - 27, 2017
35. **Invited Colloquium Speaker**, CCA seminar, New York, NY, Oct 13, 2017
34. **Invited Speaker**, UAH Physics seminar, the University of Alabama, Huntsville, AL, Apr 3, 2017
33. **Invited Colloquium Speaker**, Astrophysics Colloquium, MIT, Cambridge, MA, Nov 29, 2016
32. **Invited Colloquium Speaker**, YCAA seminar, Yale University, New Haven, CT, Oct 25, 2016
31. **Invited Talk**, Physics of Intracluster Medium: Theory and Computation, Minneapolis, MN, Aug 22-24, 2016
30. **Invited Talk**, 11th International Conference on High Energy Density Laboratory Astrophysics, Menlo Park, CA, May 16-20, 2016
29. **Invited Speaker**, INPLA Seminar, Lawrence Berkeley National Laboratory, Berkeley, CA, April 15, 2016
28. **Invited Colloquium Speaker**, Astrophysics Colloquium, Princeton University, Princeton, NJ, Feb 3, 2016
27. **Invited Speaker**, TAC Weekly Seminar, UC Berkeley, Berkeley, CA, Nov 30, 2015
26. **Invited Speaker**, High-energy Seminar, University of Michigan, Ann Arbor, MI, Nov 16, 2015
25. **Contributed talk**, Probing the Universe in Depth and Detail with the X-ray Surveyor, Washington, DC, Oct 6-8, 2015
24. **Invited Talk**, The Universe in High-resolution X-ray Spectra, Cambridge, MA, Aug 19-21, 2015
23. **Invited Talk**, ICM Physics and Modeling, Garching, Germany, Jun 15 - 17, 2015
22. **Invited Talk**, SnowCluster2015: the Physics of Galaxy Clusters, Snowbird, UT, Mar 15 - 20, 2015
21. **Invited Colloquium Speaker**, Astrophysics Colloquium, ISAS JAXA, Tokyo, Japan, Mar 5, 2015
20. **Invited Speaker**, Special Seminar, the University of Bristol, Bristol, UK, Feb 23, 2015
19. **Invited Colloquium Speaker**, Astrophysics Colloquium, the University of Oxford, Oxford, UK, Feb 19, 2015
18. **Contributed Talk**, Cosmic Overdensities through Cosmic Time, Birmingham, UK, Feb 17 - 18, 2015
17. **Invited Speaker**, HEAD Lunch Seminar, CfA, Harvard University, Cambridge, MA, Jan 21 2015
16. **Invited Speaker**, Special Seminar, the University of Chicago, Chicago, IL, Nov 18, 2014
15. **Contributed Talk**, HEAD 14th Meeting, Chicago, IL, Aug 17 - 21, 2014
14. **Invited Talk**, Inhomogeneities in Intracluster Plasma, Stanford, CA, Aug 28 - 30, 2014
13. **Contributed Talk**, Future Direction in Galaxy Cluster Survey, Paris, France, Jun 23 - 27, 2014

12. **Contributed Talk**, Zeldovich-100: Cosmology and Relativistic Astrophysics, Moscow, Russia, Jun 16-20, 2014
11. **Invited Speaker**, FLASH Seminar, UC Santa Cruz, Santa Cruz, CA, Feb 7, 2014
10. **Invited Talk**, SnowCluster2013: Physics of Galaxy Clusters, Snowbird, UT, Mar 24 - 29, 2013
9. **Invited Speaker**, Astrophysics Seminar, UC Santa Barbara, Santa Barbara, CA, Feb 27, 2013
8. **Contributed Talk**, X-ray Sky: from Stars and Black Holes to Cosmology, Kazan, Russia, Sep 3 - 7, 2012
7. **Contributed Talk**, Turbulence in Cosmic Structure Formation, Tempe, AZ, Mar 5 - 8, 2012
6. **Invited Speaker**, MPA Weekly Seminar, Garching, Germany, Oct 10, 2011
5. **Contributed Talk**, First eROSITA International Conference, Garmisch, Germany, Oct 17 - 20, 2011
4. **Contributed Talk**, Structure in Clusters and Groups of Galaxies in the Chandra Era, Boston, MA, Jul 12-14, 2011
3. **Contributed Talk**, Galaxy Clusters: the Crossroads of Astrophysics and Cosmology, Santa Barbara, CA, Mar 24 - Apr 8, 2011
2. **Contributed Talk**, High Energy Astrophysics Today and Tomorrow, Moscow, Russia, Dec 21 - 24, 2010
1. **Contributed Talk**, Non-thermal Phenomena in Colliding Galaxy Clusters, Nice, France, Nov 15 - 18, 2010

## Publication List

### Refereed Papers in Primary Journals:

49. Y. Fujita, R. Cen, **I. Zhuravleva**, 2019, submitted. *Non-steady heating of cool cores of galaxy clusters by ubiquitous turbulence and AGN*
48. Y. Li, M. Gendron-Marsolais, **I. Zhuravleva** et al., 2019, ApJL, accepted. *Direct Detection of Black Hole-Driven Turbulence in the Centers of Galaxy Clusters*
47. **I. Zhuravleva**, E. Churazov, A. A. Schekochihin, S. W. Allen, A. Vikhlinin, N. Werner, 2019, **Nature Astronomy**, 3, 832. *Suppressed effective viscosity in the bulk intergalactic plasma*
46. A. Simionescu, J. ZuHone, **I. Zhuravleva**, E. Churazov, M. Gaspari, D. Nagai, N. Werner, E. Roediger, R. Canning, D. Eckert, L. Gu, F. Paerels, 2019, Space Science Reviews, 215, 44. *Constraining gas motions in the intracluster medium*
45. L. Gu, **I. Zhuravleva**, E. Churazov, F. Paerels, J. Kaastra, H. Yamaguchi, 2018, Space Science Reviews, 214, 108. *X-Ray Spectroscopy of Galaxy Clusters: Beyond the CIE Modeling*
44. **I. Zhuravleva**, S. W. Allen, A. B. Mantz, N. Werner, 2018, ApJ, 865, 53. *Gas perturbations in cool cores of galaxy clusters: effective equation of state, velocity power spectra and turbulent heating*
43. A. Bonafede, M. Brüggen, D. Rafferty, **I. Zhuravleva** et al. 2018, MNRAS, 478, 2927. *LOFAR discovery of radio emission in MACSJ0717.5+3745*
42. Hitomi Collaboration, 2018, PASJ, 70, 13. *Hitomi observation of radio galaxy NGC 1275: The first X-ray microcalorimeter spectroscopy of Fe-K $\alpha$  line emission from an active galactic nucleus*
41. Hitomi Collaboration, 2018, PASJ, 70, 12. *Atomic data and spectral modeling constraints from high-resolution X-ray observations of the Perseus cluster with Hitomi*
40. Hitomi Collaboration, 2018, PASJ, 70, 11. *Temperature structure in the Perseus cluster core observed with Hitomi*
39. Hitomi Collaboration (**I. Zhuravleva** among corresponding authors, co-leader of the project), 2018, PASJ, 70, 10. *Measurements of Resonant Scattering in the Perseus Cluster Core with Hitomi SXS*
38. Hitomi Collaboration, 2018, PASJ, 70, 9. *Atmospheric gas dynamics in the Perseus cluster observed with Hitomi*
37. J. ZuHone, E. D. Miller, E. Bulbul, **I. Zhuravleva**, 2018, ApJ, 853, 180. *What Do the Hitomi Observations Tell Us About the Turbulent Velocities in the Perseus Cluster? Probing the Velocity Field with Mock Observations*
36. Hitomi Collaboration, 2017, **Nature**, 551, 478. *Solar abundance ratios of the iron-peak elements in the Perseus cluster*
35. A. B. Mantz, S. W. Allen, R. G. Morris, A. Simionescu, O. Urban, N. Werner, **I. Zhuravleva**, 2017, MNRAS, 472, 2877. *The Metallicity of the Intracluster Medium Over Cosmic Time: Further Evidence for Early Enrichment*
34. A. Ogorzalek, **I. Zhuravleva**, S. W. Allen, C. Pinto, N. Werner, A. Mantz, R.E.S. Canning, A.C. Fabian, J. S. Kaastra, J. de Plaa, 2017, MNRAS, 472, 1659. *Improved measurements of turbulence in the hot gaseous atmospheres of nearby giant elliptical galaxies*
33. Hitomi Collaboration, 2017, ApJL, 837, L15. *Hitomi constraints on the 3.5 keV line in the Perseus galaxy cluster*
32. E. Churazov, P. Arevalo, W. Forman, C. Jones, A. Schekochihin, A. Vikhlinin, **I. Zhuravleva**, 2016, MNRAS, 463, 1057. *Arithmetic with X-ray images of galaxy clusters: effective equation of state for small-scale perturbations in the ICM*
31. C. Pinto, A.C. Fabian, A. Ogorzalek, **I. Zhuravleva**, N. Werner, J. Sanders, Y.-Y. Zhang, L. Gu, J. de Plaa, J. Ahoranta, A. Finoguenov, R. Johnstone, R. E. A. Canning, 2016, MNRAS, 461, 2077. *Insights into the location and dynamics of the coolest X-ray emitting gas in clusters of galaxies*
30. N. Werner, **I. Zhuravleva**, R. E. A. Canning, S. W. Allen, A. L. King, J. S. Sanders, A. Simionescu, G. B. Taylor, R. G. Morris, A. C. Fabian, 2016, MNRAS, 460, 2752. *Deep Chandra study of the truncated cool core of the Ophiuchus cluster*
29. Hitomi Collaboration, 2016, **Nature**, 535, 117. *The quiescent intracluster medium in the core of the Perseus cluster*
28. **I. Zhuravleva**, E. Churazov, P. Arévalo, A. Schekochihin, W. R. Forman, S. W. Allen, A. Simionescu, R. Sunyaev, A. Vikhlinin, N. Werner, 2016, MNRAS, 458, 2902. *The nature and energetics of AGN-driven perturbations in the hot gas in the Perseus Cluster*

27. P. Arévalo, E. Churazov, **I. Zhuravleva**, W. R. Forman, C. Jones, 2016, *ApJ*, 818, 14. *On the Nature of X-ray Surface Brightness Fluctuations in M87*
26. J. A. ZuHone, M. Markevitch, **I. Zhuravleva**, 2016, *ApJ*, 817, 110. *Mapping the Gas Turbulence in the Coma Cluster: Predictions for Astro-H*
25. N. Werner, J. A. ZuHone, **I. Zhuravleva**, Y. Ichinohe, A. Simionescu, S. W. Allen, M. Markevitch, A. C. Fabian, U. Keshet, E. Roediger, M. Ruszkowski, J. S. Sanders, 2015, *MNRAS*, 455, 846. *Deep Chandra observation and numerical studies of the nearest cluster cold front in the sky*
24. A. Simionescu, N. Werner, O. Urban, S. W. Allen, Y. Ichinohe, **I. Zhuravleva**, 2015, *ApJL*, 811, L25. *A Uniform Contribution of Core-collapse and Type Ia Supernovae to the Chemical Enrichment Pattern in the Outskirts of the Virgo Cluster*
23. **I. Zhuravleva**, E. Churazov, A. A. Schekochihin, S. W. Allen, P. Arévalo, A. C. Fabian, W. R. Forman, J. S. Sanders, A. Simionescu, R. Sunyaev, A. Vikhlinin, N. Werner, 2015, *MNRAS*, 450, 4184. *Gas density fluctuations in the Perseus Cluster: clumping factor and velocity power spectrum*
22. **I. Zhuravleva**, E. Churazov, A. A. Schekochihin, S. W. Allen, P. Arévalo, A. C. Fabian, W. R. Forman, J. S. Sanders, A. Simionescu, R. Sunyaev, A. Vikhlinin, N. Werner, 2014, *Nature*, 515, 85–87. *Turbulent heating in galaxy clusters brightest in X-rays*
21. M. Gaspari, E. Churazov, D. Nagai, E. T. Lau, **I. Zhuravleva**, 2014, *A&A*, 569, A67. *The relation between gas density and velocity power spectra in galaxy clusters: high-resolution hydrodynamic simulations and the role of conduction*
20. N. Lyskova, E. Churazov, A. Moiseev, O. Sil'chenko, **I. Zhuravleva**, 2014, *MNRAS*, 441, 2013. *Stellar kinematics of X-ray bright massive elliptical galaxies*
19. **I. Zhuravleva**, E. Churazov, A. A. Schekochihin, E. T. Lau, D. Nagai, M. Gaspari, S. W. Allen, K. Nelson, I. J. Parrish., 2014, *ApJL*, 788, L13. *The relation between gas density and velocity power spectra in galaxy clusters: qualitative treatment and cosmological simulations*
18. O. Urban, A. Simionescu, N. Werner, A. W. Allen, S. Ehlert, **I. Zhuravleva** et al., 2014, *MNRAS*, 437, 3939. *Azimuthally resolved X-Ray spectroscopy to the edge of the Perseus Cluster*
17. **I. Zhuravleva**, E. Churazov, R. Sunyaev, S. Sazonov, S. W. Allen, N. Werner, A. Simionescu, S. Konami, T. Ohashi, 2013, *MNRAS*, 435, 3111. *Resonant scattering in the Perseus Cluster: spectral model for constraining gas motions with Astro-H*
16. P. E. J. Nulsen, Z. Li, W. R. Forman, R. P. Kraft, D. V. Lal, C. Jones, **I. Zhuravleva**, et al., 2013, *ApJ*, 775, 117. *Deep Chandra observations of A2199: the interplay between merger-induced gas motions and nuclear outbursts in a cool core cluster*
15. S. Khedekar, E. Churazov, A. Kravtsov, **I. Zhuravleva**, E. T. Lau, D. Nagai, R. Sunyaev, 2013, *MNRAS*, 431, 954. *Bias from gas inhomogeneities in the pressure profiles as measured from X-ray and Sunyaev-Zeldovich observations*
14. **I. Zhuravleva**, E. Churazov, A. Kravtsov, E. T. Lau, D. Nagai, R. Sunyaev, 2013, *MNRAS*, 428, 3274. *Quantifying properties of ICM inhomogeneities*
13. P. Arévalo, E. Churazov, **I. Zhuravleva**, C. Hernández-Monteagudo, M. Revnivtsev, 2012, *MNRAS*, 426, 1793. *A Mexican hat with holes: calculating low-resolution power spectra from data with gaps*
12. Á. Bogdán, W. R. Forman, R. P. Kraft, C. Jones, C. Blom, S. W. Randall, Z. Zhang, **I. Zhuravleva** et al., 2012, *ApJ*, 755, 25. *Chandra observations of NGC 4342, an optically faint, X-Ray gas-rich early-type galaxy*
11. Á. Bogdán, W. R. Forman, **I. Zhuravleva** et al., 2012, *ApJ*, 753, 140. *Exploring the unusually high black-hole-to-bulge mass ratios in NGC 4342 and NGC 4291: the asynchronous growth of bulges and black holes*
10. N. Lyskova, E. Churazov, **I. Zhuravleva**, T. Naab, L. Oser, O. Gerhard, X. Wu, 2012, *MNRAS*, 423, 1813. *Testing a simple recipe for estimating galaxy masses from minimal observational data*
9. **I. Zhuravleva**, E. Churazov, A. Kravtsov, R. Sunyaev, 2012, *MNRAS*, 422, 2712. *Constraints on the ICM velocity power spectrum from the X-ray lines width and shift*
8. E. Churazov, A. Vikhlinin, **I. Zhuravleva**, A. Schekochihin, I. Parrish, R. Sunyaev, W. Forman, H. Bohringer, S. Randall, 2012, *MNRAS*, 421, 1123. *X-Ray surface brightness and gas density fluctuations in the Coma Cluster*
7. J. de Plaa, **I. Zhuravleva**, N. Werner, J. S. Kaastra, E. Churazov, R. K. Smith, A. J. J. Raassen, Y. G. Grange, 2012, *A&A*, 539, A34. *Estimating turbulent velocities in the elliptical galaxies NGC 5044 and NGC 5813*
6. **I. Zhuravleva**, E. Churazov, S. Sazonov, R. Sunyaev, K. Dolag, 2011, *AstL*, 37, 141. *Resonant scattering in galaxy clusters for anisotropic gas motions on various spatial scales*
5. E. Churazov, **I. Zhuravleva**, S. Sazonov, R. Sunyaev, 2010, *SSRv*, 157, 193. *Resonant scattering of X-ray emission lines in the hot intergalactic medium*
4. P. Das, O. Gerhard, E. Churazov, **I. Zhuravleva**, 2010, *MNRAS*, 409, 1362. *Steepening mass profiles, dark matter and environment of X-ray bright elliptical galaxies*
3. **I. Zhuravleva**, E. Churazov, S. Sazonov, R. Sunyaev, W. Forman, K. Dolag, 2010, *MNRAS*, 403, 129. *Polarization of X-ray lines from galaxy clusters and elliptical galaxies - a way to measure the tangential component of gas velocity*
2. N. Werner, **I. Zhuravleva**, E. Churazov, A. Simionescu, S. Allen, W. Forman, C. Jones, J. Kaastra, 2009, *MNRAS*, 398, 23. *Constraints on turbulent pressure in the X-ray haloes of giant elliptical galaxies from resonant scattering*
1. B. V. Komberg, D. I. Nagirner, **I. V. Zhuravleva**, 2008, *ARep*, 52, 707. *The Sunyaev-Zel'dovich effect in elliptical galaxies*

**Contributions to Symposia and Compiled Volumes (referred only):**

2. **I. Zhuravleva**, 2011, *MmSAI*, 82, 481. *Gas turbulent motions in galaxy clusters*

1. **I. V. Zhuravleva** et al., 2010, *X-ray Polarimetry: A New Window in Astrophysics*, ed. by R. Bellazzini, E. Costa, G. Matt and G. Tagliaferri, Cambridge University Press, p. 146. *Polarization of X-ray lines from galaxy clusters and elliptical galaxies*

**White papers:**

6. M. Markevitch, ..., **I. Zhuravleva** et al., 2019, *BAAS*, 51, 569. *Astro2020 Decadal Survey: Physics of cosmic plasmas from high angular resolution X-ray imaging of galaxy clusters*

5. M. Ruszkowski, D. Nagai, **I. Zhuravleva** et al., 2019, *BAAS*, 51, 326. *Astro2020 Decadal Survey: Supermassive Black Hole Survey*

4. D. Caprioli, ..., **I. Zhuravleva** et al., 2019, arXiv:1903.08751. *Plasma2020 Decadal Survey: Intracluster Medium Plasmas*

3. M. Kunz, ..., **I. Zhuravleva** et al., 2019, arXiv:1903.04080. *Plasma2020 Decadal Survey: The Material Properties of Weakly Collisional, High-Beta Plasmas*

2. T. Takahashi, ..., **I. Zhuravleva** et al., 2014, arXiv: 1412.1356. *The Astro-H X-ray Astronomy Satellite*

1. K. Nandra, ..., **I. Zhuravleva** et al., 2013, arXiv:1306.2307. *The Hot and Energetic Universe: A White Paper presenting the science theme motivating the Athena+ mission*