ILIAN T. ILIEV
Curriculum Vitae

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Personal Data:

Date of birth: August 14th, 1969, Pleven, Bulgaria.

Citizenship: Bulgarian

Languages: Bulgarian (native), English (fluent), Italian, Russian (good), Spanish (reading).

Education:

1994: Diploma (M.S.-equivalent) in Physics, Sofia University, Sofia, Bulgaria.

2000: Ph.D. in Physics, University of Texas at Austin.

Grants:

2000 PI: NSF International Research Fellowship Award ($30,000).

2006 CoPI (PI: Paul Shapiro): NCSA computing time grant (100K processor-hours).

2006 CoPI: (PI: G. Mellema): DEISA computing time grant (100K processor-hours).

2007 PI: Marie Curie International Reintegration Grant under FP7: call PEOPLE-2007-4-3-IRG (Euro 100,000) (declined).

2008 CoPI (PI: Paul Shapiro): Lonestar computing time grant (Texas Advanced Computing Center) (550k processor-hours).

2008 CoPI (PI: Paul Shapiro): Ranger computing time grant (Texas Advanced Computing Center) (2M + 2M + 250k processor-hours).

2008 CoPI (PI: Paul Shapiro): Ranger computing time grant (TeraGrid) (0.8M processor-hours).

2008 PI: European Science Foundation Short Visit Grant (Euro 841).

2008 CoPI (PI: Paul Shapiro): TeraGrid computing time grant (9.5M processor-hours).

2009 SEPNET Research Studentship Grant (£42,420).

2009 CoPI (PI: Paul Shapiro): TeraGrid computing time grant (9.5M processor-hours).

2009 Finalist, EU ERC Starting Grants, proposal rated above quality threshold.

2010 Royal Society International Joint Project Grant (£10,400).

2010 CoPI (PI: Stefan Gottlöber): JUROPA (Jülich, Germany) computing time grant (1.44M processor-hours=Euro 70,000).

2011 PI: Royal Society Research Grant for organizing a workshop (£2,000).

2011 PI: European Science Foundation grant (through AstroSim project) for organizing a workshop (Euro 5,000).

2011 CoPI Sussex Astronomy Rolling Grant (PI: Andrew Liddle) (£2,992,024).

2011 CoPI (PI: Paul Shapiro): TeraGrid computing time grant (12M processor-hours).

2011 CoPI (PI: Stefan Gottlöber): JUROPA (Jülich, Germany) computing time grant (1.44M processor-hours=Euro 70,000)

2012 CoPI (PI: Ue-Li Pen): SciNet computing time grant (34M processor-hours).

Work Experience:

- September 2000 - March 2001: US National Science Foundation International Research Fellow, Instituto de Astronomía, Universidad Nacional Autonoma de México (UNAM), México City, México.
- April 2001 - July 2003: Postdoctoral Researcher with the European Research Network "The Physics of the Intergalactic Medium", Osservatorio Astrofisico di Arcetri, Florence, Italy.
- August 2003 - August 2007: Postdoctoral Researcher at the Canadian Institute for Theoretical Astrophysics (CITA), The University of Toronto, Toronto, Canada.
- August 2007 - December 2008: Postdoctoral Researcher at the Institute for Theoretical Astrophysics, The University of Zürich, Switzerland.
- January 2009 - present: Permanent Lecturer in Astronomy at The University of Sussex, Brighton, United Kingdom.

Conference Organization/Project Leadership:

- Cosmological Radiative Transfer Comparison Project Workshop I, CITA, May 2005.
- Cosmological Radiative Transfer Comparison Project Workshop II, Lorentz Center, Netherlands, December 2005.
- Cosmological Radiative Transfer Comparison Project Workshop III, The University of Texas, Austin, USA, December 2008.
- CLUES Project Workshop, University of Sussex, Brighton, UK, June 2011.

Teaching Experience:

- 1994 - 1997: Teaching Assistant, Physics Department, University of Texas at Austin.
- 1997 - 2000: Assistant Instructor, Physics Dept., University of Texas at Austin.
- 1998 - 2000: Assistant Instructor, Astronomy Dept., University of Texas at Austin.
- May-August 2004: Co-supervisor (with Prof. Ue-Li Pen) of undergraduate summer research project, CITA, University of Toronto.
- 2009 - present: Lecturer at University of Sussex.

Fellowships and Awards:

- 1989-1991: University Scholarship, Sofia University, Bulgaria.
- 1990-1994: Annual Rector's Award for Academic Excellence, Sofia University, Bulgaria.

- 1991-1994: University Fellowship, Sofia University, Bulgaria.
- 1998: Professional Development Award, Graduate School, University of Texas at Austin.
- 2000: Lady Davis Trust Fellowship, Hebrew University of Jerusalem (declined).
- 2000: NSF International Research Fellow Award.

Professional Services and Managing Experience:

- Fellow of the Royal Astronomical Society.
- Fellow of the Higher Education Academy.
- Member of the LOFAR Epoch of Reionization Key Science Project.
- Member of the LOFAR-UK Managing Committee (SEPNet liason).
- Member of the SEPnet (SouthEast Physics Network) Astro Managing Committee.
- Member of the Petascale User Committee at The Texas Advanced Computing Center.
- Referee for Astrophysical Journal, Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics and Astrophysics & Space Science.
- US National Science Foundation proposal review panelist (Extragalactic Astronomy and Cosmology Theory and Simulations) (2006-2011).
- NASA Astrophysics Theory Program proposal invited review panelist (2010).
- Reviewer of STFC proposals (2011).
- Referee of observing time proposals for Gemini Observatories.
- Reviewer of grant proposals for NWO (Netherlands Science Foundation).
- Reviewer of grant proposals for L'Agence Nationale de la Recherche (French National Research Agency).

Recent Invited Reviews and Invited Talks at Conferences, Workshops and Schools:

- Invited Review on "Reionization: constraints from the CMB and 21-cm observations", Kingston Theoretical Astrophysics Meeting, University of British Columbia, November 2003.
- Invited Speaker at the Oort Workshop on "CMB and first objects at the end of the dark ages: observational consequences of reionization", Leiden, Netherlands, April 2004.

- Invited Speaker at the TIARA (Theoretical Institute for Advanced Research in Astrophysics) Workshop on Reionization, Taiwan, Feb. 13-Mar. 3, 2006.
- Lecturer at Cosmology Winter School at Theoretical Institute for Advanced Research in Astrophysics, Taiwan, Feb. 13-Feb. 17, 2006.
- Invited Review on "Numerical Simulations of Reionization" at "The End of the Dark Ages: From First Light to Reionization", STScI Workshop, U.S.A., March 2006.
- Invited Speaker at 2006 Mitchell Symposium on Astronomy, Cosmology and Fundamental Physics, Texas A&M University, U.S.A., April 2006.
- Invited Speaker at the 2006 Great Lakes Cosmology Meeting, Perimeter Institute, Waterloo, Canada, November 2006.
- Invited Speaker at the 2007 Niels Bohr Institute workshop on "The Nature of the First Stars", Copenhagen, Denmark, April 16-20, 2007.
- Invited Speaker at the 2007 Nordita Symposium "New Trends in Radiation Hydrodynamics", Stockholm, Sweden, May 9-11, 2007.
- Lecturer at Summer School on "Particle Physics, Cosmology and Strings", Perimeter Institute, Waterloo, Canada, August 6 - 18, 2007.
- Invited Speaker at the Euro-VO DCA workshop "Theory in the Virtual Observatory", April 7-9, 2008, Garching, Germany.
- Invited Review on "Cosmological Simulations of Hydrogen Reionization" at "21cm Cosmology" Harvard Conference, Harvard, May 12-15, 2008.
- Invited Speaker at the "Frontiers in Computational Astrophysics: The Origin of Stars, Planets and Galaxies", Ascona, Switzerland, July 13-18, 2008.
- Invited Speaker at the 2008 Heidelberg workshop on "Cosmic Dust & Radiative Transfer - a workshop devoted to radiative transfer coding", Max-Planck-Institut für Astronomie Heidelberg, 15-17 September 2008.
- Invited Review on "Simulations of Hydrogen Reionization" at Reionization@Ringberg Conference, Ringberg Castle, Germany, March 23-27, 2009.
- Invited Speaker at "The local universe: from dwarf galaxies to galaxy clusters", Jablonna, Poland, June 28 - July 4, 2009.
- Invited Speaker at "Reionization with Multi-frequency Datasets", Stockholm, Sweden, 17-21 August 2009.
- Invited Speaker at The 4th KIAS workshop on "Cosmology and Structure Formation", KIAS, Seoul, Korea, Nov 4-6, 2010.

- Invited Speaker at "CosmoFirstObjects: International Meeting on High-z Cosmology", Laboratoire d'Astrophysique de Marseille (LAM), Marseille, France, May 3-6, 2011.
- Invited colloquia and seminars at Leiden Observatory, Stockholm Observatory, University of California at Santa Barbara, Potsdam Observatory, University of Texas, University of Sofia, Leicester University, University of Sussex, University of Durham, Portsmouth University, University of Kent, MSSL, Imperial College London, Queen Mary's University.

References:

Prof. Paul R. Shapiro, Department of Astronomy, The University of Texas at Austin, 2511 Speedway, RLM 15.306, C1400, Austin, TX 78712, USA; e-mail: shapiro@astro.as.utexas.edu, telephone: +1-512-471-9422.

Prof. J. Richard Bond, CITA, McLennan Labs, University of Toronto, 60 St. George Street, Toronto, Ontario M5S 3H8, Canada; e-mail: bond@cita.utoronto.ca, telephone: +1-416-978-6874.

Prof. Ue-Li Pen, CITA, McLennan Labs, University of Toronto, 60 St. George Street, Toronto, Ontario M5S 3H8, Canada; e-mail: pen@cita.utoronto.ca, telephone: +1-416-978-6477.

Prof. Garrelt Mellema, Stockholm University AlbaNova University Center, Stockholm Observatory Department of Astronomy, SE-106 91 Stockholm, Sweden; e-mail: garrelt@astro.su.se, telephone +46 8 5537 8552, fax: +46 8 5537 8510.

Prof. Hugo Martel, Département de physique, de génie physique et d'optique, Université Laval, Québec, QC G1K 7P4, Canada; e-mail:hmartel@phy.ulaval.ca, telephone +1 418 656-2131, ext 2234.

Prof. Ben Moore, Universität Zürich, Institut für Theoretische Physik, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland; e-mail: moore@physik.unizh.ch, telephone +41 44 635 5815.

Prof. Uros Seljak, Universität Zürich, Institut für Theoretische Physik, Winterthurerstrasse 190, CH-8057 Zürich, Switzerland; e-mail: seljak@physik.unizh.ch, telephone +41 44 6355813.

Refereed Publications (in chronological order):

1. Shapiro, P. R., Iliev, I. T., & Raga, A. C. "A model for the postcollapse equilibrium of cosmological structure: truncated isothermal spheres from top-hat density perturbations", 1999, MNRAS, 307, 203.
2. Shapiro, P. R. & Iliev, I. T. "On the Mass Profile of Galaxy Cluster CL 0024+1654 Inferred from Strong Lensing", 2000, ApJ, 542, 1L.
3. Iliev, I. T. & Shapiro, P. R. "On the Origin of the Rotation Curves of Dark Matter-dominated Galaxies", 2001, ApJ, 546, 5L.

4. Iliev, I. T. & Shapiro, P. R. "The postcollapse equilibrium structure of cosmological halos in a low density universe" 2002, MNRAS, 325, 468.

5. Shapiro, P. R. & Iliev, I. T. "The Central Mass and Phase-Space Densities of Dark Matter Halos: Cosmological Implications", 2002, ApJ, 565, 1L.

6. Iliev, I. T., Shapiro, P. R., Ferrara, A. & Martel, H. "On the Direct Detectability of the Cosmic Dark Ages: 21 Centimeter Emission from Minihalos ", 2002, ApJ, 572, 123L.

7. Iliev, I. T., Scannapieco, E., Martel, H., & Shapiro, P. R., "Nonlinear clustering during the cosmic Dark Ages and its effect on the 21-cm background from minihalos", 2003, MNRAS, 341, 81.

8. Shapiro, P. R., Iliev, I. T., & Raga, A. C. "Photoevaporation of cosmological minihaloes during reionization", 2004, MNRAS, 348, 753.

9. Iliev, I. T., Shapiro, P. R., Scannapieco, E. & Raga, A. C. "Effects of small-scale structure on the progress and duration of reionization" 2004, in *Outskirts of Galaxy Clusters: Intense Life in the Suburbs* (Refereed Proceedings of IAU Colloquium 195), ed. A. Diaferio, Cambridge University Press, pp. 549-551.

10. Iliev, I. T., Shapiro, P. R. & Raga, A. C. "Photoevaporation times and ionizing photon consumption rates of individual minihalos during cosmic reionization", 2005, MNRAS, 361, 405.

11. Iliev, I. T., Scannapieco, E., & Shapiro, P. R. "The Impact of Small-Scale Structure on Cosmological Ionization Fronts and Reionization", 2005, ApJ, 624, 491.

12. Mellema, G., Iliev, I. T., Alvarez, M. A.,& Shapiro, P. R. "C^2-Ray: A new method for photon-conserving transport of ionizing radiation", 2006, NewA, 11, 374.

13. Ciardi, B., Scannapieco, E., Stoehr, F., Ferrara, A., Iliev, I. T., & Shapiro, P. R. "The effect of minihaloes on cosmic reionization", 2006, MNRAS, 366, 689.

14. Iliev, I. T., Hirashita, H., & Ferrara, A. "Fate of clumps in damped Lyα systems", 2006, MNRAS, 368, 1885.

15. Shapiro, P. R., Iliev, I. T., Alvarez, M. A., & Scannapieco, E., "Relativistic Ionization Fronts", 2006, ApJ, 648, 922.

16. Shapiro, P. R., Ahn, K., Alvarez, M. A., Iliev, I. T., Martel, H., & Ryu, D. "The 21 Centimeter Background from the Cosmic Dark Ages: Minihalos and the Intergalactic Medium before Reionization" 2006, ApJ, 646, 681.

17. Iliev, I. T., Mellema, G., Pen, U.-L., Merz, H., Shapiro, P. R., & Alvarez, M. A. "Simulating Cosmic Reionization on Large Scales I: the Geometry of Reionization", 2006, MNRAS, 369, 1625.

18. Mellema, G., Arthur, S. J., Henney, W. J., Iliev, I. T., & Shapiro, P. R. "Dynamical H II Region Evolution in Turbulent Molecular Clouds", 2006, ApJ, 647, 397.

19. Iliev, I. T., et al. "Cosmological Radiative Transfer Codes Comparison Project I: The Static Density Field Tests", 2006, MNRAS, 371, 1057.

20. Mellema, G., Iliev, I. T., Pen, U.-L. & Shapiro, P. R. "Simulating Cosmic Reionization at Large Scales II: the 21-cm Emission Features and Statistical Signals", 2006, MNRAS, 372, 679.

21. Alvarez, M. A., Shapiro, P. R., Ahn, K., & Iliev, I. T. "Implications of WMAP Three Year Data for Reionization" 2006, ApJ, 644, 101L.

22. Iliev, I. T., Mellema, G., Shapiro, P. R. & Pen, U.-L. "Self-Regulated Reionization" 2007, MNRAS, 376, 534.

23. Iliev, I. T., Pen, U.-L., Bond, J. R., Mellema, G. & Shapiro, P. R. "The Kinetic Sunyaev-Zel'dovich Effect from Radiative Transfer Simulations of Patchy Reionization", 2007, ApJ, 660, 933.

24. Holder, G. P., Iliev, I. T., & Mellema, G. "Reconstructing the Thomson Optical Depth due to Patchy Reionization from 21-cm Fluctuation Maps" 2007, ApJL, 663, 1.

25. Iliev, I. T., Mellema, G., Pen, U.-L., Bond, J. R.,& Shapiro, P. R. "Current Models of the Observable Consequences of Cosmic Reionization and their Detectability", MNRAS, 2008, 384, 863.

26. Doré, O., Holder, G. P., Alvarez, M. A., Iliev, I. T., Mellema, G., Pen, U.-L., & Shapiro, P. R "The Signature of Patchy Reionization in the Polarization Anisotropy of the CMB" 2007, Physical Review D, 76, 043002.

27. Weinmann, S. M., Macciò, A. V., Iliev, I. T., Mellema, G. & Moore, B."Dependence of the Local Reionization History on Halo Mass and Environment: did Virgo Reionize the Local Group?" 2007, MNRAS, 381, 367.

28. Iliev, I. T., Shapiro P. R., Mellema, G., Pen, U.-L., McDonald, P. & Alvarez, M. A. "Reionization: Characteristic Scales, Topology and Observability", in "Space Astronomy: The UV window to the Universe" 2007, AP&SS, refereed proceedings of 1st NUVA Conference "Space Astronomy: The UV window to the Universe", El Escorial (Spain) (arXiv:0710.2451).

29. Iliev, I. T., Shapiro, P. R., McDonald, P., Mellema, G., & Pen, U.-L. "The Effect of the Intergalactic Environment on the Observability of Ly-α Emitters During Reionization", 2008, MNRAS, 391, 63.

30. Iliev, I. T., Mellema, G., Pen, U.-L. & Shapiro P. R. "Character and detectability of the dark ages and the epoch of reionization: the view from the simulations", in "From Planets to Dark Energy: The Modern Radio Universe", Manchester, UK, refereed proceedings published by "Proceedings of Science" (PoS) online journal PoS (MRU) 018 (arXiv:0712.1356).

31. Iliev, I. T., Mellema, G., Merz, H., Shapiro, P. R. & Pen, U.-L. "Simulating Cosmic Reionization" 2008, in refereed proceedings of TegaGrid08, (arXiv:0806.2887).

32. Ahn, K., Shapiro, P. R., Iliev, I. T., Mellema, G., & Pen, U.-L. "The Inhomogeneous Background of H_2 Dissociating Radiation During Cosmic Reionization", 2009, ApJ, 695,1430.

33. Harker, G. J. A., et al. (the LOFAR EoR collaboration) "Detection and Extraction of Signals from the Epoch of Reionization Using Higher Order One-Point Statistics", 2009, MNRAS, 393, 1449.

34. Desjacques, V., Seljak, U. & Iliev, I. T., "Scale-dependent bias induced by local non-Gaussianity: A comparison to N-body simulations ", 2009, MNRAS, 396, 85.

35. Iliev, I. T., et al. "Cosmological Radiative Transfer Code Comparison Project II: the Radiative Hydrodynamic Tests", 2009, MNRAS, 400, 1283.

36. Tilvi, V., Malhotra, S., Rhoads, J. E., Scannapieco, E., Thacker, R. J., Iliev, I. T., Mellema, G., "A Physical Model of Lyman Alpha Emitters", 2009, ApJ, 704, 724.

37. Fernandez, E. R., Komatsu, E., Iliev, I. T., Shapiro, P. R., "The Cosmic Near Infrared Background II: Fluctuations", 2010, ApJ, 710, 1089.

38. Ichikawa, K., Barkana, R., Iliev, I. T., Mellema, G., Shapiro, P. R., "Measuring the History of Cosmic Reionization using the 21-cm PDF from Simulations", 2010, MNRAS, 406, 2521.

39. Iliev, I. T., Moore, B., Gottlöber, S., Yepes, G., Hoffman, Y., Mellema, G. "Reionization of the Local Group", MNRAS, 413, 2093.

40. Zackrisson, E., Scott, P., Rydberg, C.-E., Iocco, F., Sivertsson, S., Östlin, G., Mellema, G., Iliev, I. T., Shapiro, P. R. "Observational constraints on supermassive dark stars", 2010, MNRAS Letters, 407, 74.

41. Friedrich, M. M., Mellema, G., Alvarez, M. A., Shapiro, P. R., Iliev, I. T. "Topology and Sizes of HII Regions during Cosmic Reionization", 2011, MNRAS, 413, 1353.

42. Daruru, S., Gupta, G., Iliev, I. T., Xu, W., Navratil, P., Marin, N. Ghosh, J. "Distributed, Scalable Clustering for Detecting Halos in Terascale Astronomy" in refereed proceedings of KDCloud-10, in press.

43. Mao, Y., Shapiro, P. R., Mellema, G., Iliev, I. T., Koda, J., Ahn, K. "Redshift Space Distortion of the 21cm Background from the Epoch of Reionization I: Methodology Re-examined", 2012, MNRAS, in press (arXiv:1104.2094).

44. Obradovic, M., Kunz, M., Hindmarsh, M., Iliev, I. T. "Particle motion in weak relativistic gravitational fields", 2011, submitted to Physical Review D, (arXiv:1106.5866).

45. Iliev, I. T., Mellema, G., Shapiro, P. R.; Pen, U.-L., Mao, Y., Koda, J., Ahn, K. "Can 21-cm observations discriminate between high-mass and low-mass galaxies as reionization sources?", 2011, submitted to MNRAS (arXiv:1107.4772).

46. Datta, K., Mellema, G., Mao, Y., Iliev, I. T., Shapiro, P. R., Ahn, K. "Light cone effect on the reionization 21-cm power spectrum", 2011, submitted to MNRAS (arXiv:1109.1284).

47. Ilie, C., Freese, K., Valluri, M., Iliev, I. T., Shapiro, P. R. "Observing Dark Stars with JWST", 2011, submitted to MNRAS (arXiv:1110.6202).

48. Friedrich, M. M., Mellema, G., Iliev, I. T., Shapiro, P. R. "Radiative transfer of hard photons: X-rays and helium chemistry in C^2-Ray", 2012, MNRAS, in press.

49. Fernandez, E. R., Iliev, I. T., Komatsu, E., Shapiro, P. R., "The Cosmic Near Infrared Background III: Fluctuations, Reionization and the Effects of Minimum Mass and Self-regulation", 2011, ApJ submitted (arXiv:1112.2064).

Public outreach:

50. Toronto Star, Sunday, October 23rd, 2005.

51. AstroNews, ASTRON newsletter, December, 2006.

52. SKA Public Outreach Brochure, January, 2007.

53. University of Sussex Physics and Astronomy Department brochure, 2009.

54. Sky and Telescope, May 2011, p. 26.

Book Contributions:

55. Shapiro, P. R., Iliev, I. T., Martel, H., Ahn, K. & Alvarez, M. 2005 "The Equilibrium Structure of CDM Halos" invited contribution to "Progress in Dark Matter Research", Nova Publishers (astro-ph/0409173).

Conference Proceedings and selected recent Presentations:

56. Iliev, I. T. & Shapiro, P. R. "The Equilibrium Structure of Cosmological Halos: From Dwarf Galaxies to X-ray Clusters", 2001, RMxAC, 10, 138.

57. Iliev, I. T. & Shapiro, P. R. "The Equilibrium Structure of Cosmological Halos", in *Relativistic Astrophysics: 20th Texas Symposium*, eds. J. C. Wheeler & H. Martel (AIP Conf. Proc. 586), p. 146.

58. Iliev, I. T. & Shapiro, P. R. "The Universal Equilibrium of CDM Halos: Making Tracks on the Cosmic Virial Plane", 2002, *"The Mass of Galaxies at Low and High Redshift*' (ESO Astrophysics Symposia), eds. R. Bender & A. Renzini, Springer-Verlag, Heidelberg, p. 160.

59. Martel, H., Shapiro, P. R., Iliev, I. T., Scannapieco, E., & Ferrara, A. "On the Detectability of the Cosmic Dark Ages: 21-cm Lines from Minihalos" 2002, in *"Emergence of Cosmic Structure"*, Proceedings of the 2002 October Astrophysics Conference in Maryland. Eds. S. S. Holt and C. Reynolds.

60. Shapiro, P. R., Iliev, I. T., Raga, A. C., & Martel, H. "Photoevaporation of Minihalos during Reionization" 2002, in *"Emergence of Cosmic Structure"*, Proceedings of the 2002 October Astrophysics Conference in Maryland. Eds. S. S. Holt and C. Reynolds.

61. Iliev, I. T. "Reionization: constraints from the CMB and 21-cm observations", invited review, Kingston Theoretical Astrophysics Meeting, UBC, 2003. (http://pitp.physics.ubc.ca/CWSSArchives/2003Kingston/Kingston2003.html).

62. Iliev, I. T. "Reionization, CMB and small-scale structure", in CD-Rom proceedings of 20th IAP colloquium on Cosmic Microwave Background physics and observation (also http://www2.iap.fr/Conferences/Colloque/col2004/program.html).

63. Iliev, I. T., "Small-scale structure at high redshift: observability and effects on reionization", *1st Arizona/Heidelberg Symposium - The High Redshift Frontier* - Tucson, AZ, USA - Nov. 30 - Dec. 03, 2004 (http://highz.ita.uni-heidelberg.de/pdf-files/Iliev.pdf).

64. Iliev, I. T., Shapiro, P. R., Scannapieco, E., Mellema, G., Alvarez, M., Raga, A. C., & Pen, U.-L. "Ionization fronts and their interaction with density fluctuations: implications for reionization" in *Probing Galaxies through Quasar Absorption Lines* (Proceedings of IAU Colloquium 199), eds. P. R. Williams, C. Shu, and B. Ménard, Cambridge University Press, pp. 369-374. (astro-ph/0505135).

65. Ahn, K., Shapiro, P. R., Alvarez, M. A., Iliev, I. T., Martel, H., & Ryu, D. "21 centimeter Background from the Cosmic Dark Ages: Minihalos and the Intergalactic Medium before Reionization", in proceedings of *"First Light and Reionization: Theoretical Study and Experimental Detection of the First Luminous Sources in the Universe"*, eds. A. Cooray and E. Barton, New Astronomy Reviews, Volume 50, Issues 1-3 , March 2006, 179-183 (astro-ph/0509651).

66. Hirashita, H., Ferrara, A. & Iliev, I. T. "Star Formation and H_2 in Damped Lyα Clouds", 2005, in proceedings of *The Fabulous Destiny of Galaxies: Bridging Past and Present*, 20-24 June 2005, Marseilles, France.

67. Iliev, I. T., "Simulating Reionization: A New Photon-Conserving Method for Radiative Transfer" *Reionizing The Universe, The Epoch of Reionization and the Physics of the*

IGM June 27th-July 1st, 2005, Groningen, The Netherlands (http://www.astro.rug.nl/∼cosmo05/presentations/iliev.pdf).

68. Shapiro, P. R., Ahn, K., Alvarez, M. A., Iliev, I. T., & Martel, H. "Understanding the Equilibrium Structure of CDM Halos" in the proceedings of 21st IAP colloquium, "Mass Profiles and Shapes of Cosmological Structures", July 2005, (astro-ph/0510146).

69. Iliev, I. T., Pen, U.-L., Bond, J. R., Mellema, G. & Shapiro, P. R. "The Kinetic Sunyaev-Zel'dovich Effect from Patchy Reionization: The View From the Simulations", in proceedings of *Fundamental Physics With Cosmic Microwave Background Radiation*, eds. A. Cooray and M. Kaplinghat, March 2006, New Astronomy Reviews, Issue 11-12, 50, 909 (astro-ph/0607209).

70. Mellema, G., Iliev, I. T., Pen, U.-L., & Shapiro P. R. "WMAP3 Results and the Observability of Reionization at Redshifted 21cm", in proceedings of *Cosmology, Galaxy Formation and Astroparticle Physics on the Pathway to the SKA*, eds. H.-R. Klöckner, M. Jarvis & S. Rawlings, Oxford University Press.

71. Iliev, I. T., Mellema, G., Shapiro P. R., McDonald, P. & Pen, U.-L. "Large-scale radiative transfer simulations of reionization: models and observability", in proceedings of "At the Edge of the Universe", Eds. J. Afonso, H. Ferguson, Mobasher, B. & R. Norris, October 2006, Sintra, Portugal, ASP Conference Series, v. 380, p. 3.

72. Iliev, I. T., Shapiro, P. R., Mellema, G., Pen, U.-L., McDonald, P., & Bond, J. R. "Simulating Reionization: Character and Observability" in "First Stars III", eds. B. W. O'Shea, A. Heger & T. Abel, AIP Conference Series 990, 442 (astro-ph/0708.3846).

73. Ahn, K., Shapiro, P. R., Iliev, I. T., Mellema, G., & Pen, U.-L. "The Inhomogeneous Background of H_2 Dissociating Radiation During Cosmic Reionization" in "First Stars III", eds. B. W. O'Shea, A. Heger & T. Abel, AIP Conference Series 990, 374 (arXiv:0807.0920).

74. Shapiro, P. R., Iliev, I. T., Mellema, G., Pen, U. L., McDonald, P., Bond, J. R., Alvarez, M., & Ahn, K., "Observable Signatures of Cosmic Reionization and the End of the Dark Ages", 2007, American Astronomical Society, AAS Meeting #211, #91.03.

75. Tilvi, V., Malhotra, S., Rhoads, J., Scannapieco, E., Iliev, I. T., & Mellema, G., "A Simple Galaxy-Formation Model of Lyman-Alpha Emitters", 2007, American Astronomical Society, AAS Meeting #211, #54.03.

76. Shapiro, P. R., Iliev, I. T., Mellema, G., Pen, U. L., Merz, H., "The Theory and Simulation of the 21-cm Background from the Epoch of Reionization", in proceedings of "The Evolution of Galaxies through the Neutral Hydrogen Window", eds. R. Minchin & A. Momjian, AIP Conference Series, 1035, 68 (arXiv:0806.3091).

77. Iliev, I. T. "Cosmological Radiative Transfer Comparison Project", in Proceedings of "Theory in the Virtual Observatory" workshop, eds. J. Zuther & G. Lemson, 2009, Memorie della Societa Astronomica Italiana - Supplementi, 80, 415.

78. Desjacques, V., Seljak, U. & Iliev, I. T. "Effect of primordial non-Gaussianity on halo bias and mass function" in proceedings of "The Invisible Universe", Paris, June 29th-July 3rd, 2009.

79. Iliev, I. T., Ahn, K., Koda, J., Shapiro, P. R. & Pen, U.-L. "Cosmic Structure Formation at High Redshift" in proceedings of 45th Rencontres de Moriond, La Thuile (Val d'Aosta, Italy), March 13 - 20, 2010.

80. Ahn, K., Shapiro, P. R., Iliev, I. T., Koda, J., Mellema, G., & Pen, U.-L. "Cosmological Reionization by the First Stars in the H_2 Dissociating Background" in "The First Stars and Galaxies: Challenges for the next Decade", AIP Conference Series 1294, 250.

81. Fernandez, E. R., Iliev, I. T., Komatsu, E., Shapiro, P. R., "Understanding The Cosmic Infrared Background", 2010, PoS, Cosmic Radiation Fields: Sources in the early Universe - CRF2010, November 9-12, 2010, Desy, Germany.

82. Mao, Y., Shapiro, P. R., Iliev, I. T., Mellema, G., Koda, J. & Pen, U.-L. "The Impact of Peculiar Velocity and Inhomogeneous Reionization on 21cm Cosmology from the Epoch of Reionization", 2010, in proceedings of F. Bash Symposium 2009.

83. Friedrich, M. M., Mellema, G., Alvarez, M. A., Shapiro, P. R., Iliev, I. T. "The Euler Characteristic as a Measure of the Topology of Cosmic Reionization", 2011, RMexAA (Serie de Conferencias) Vol. 40, pp. 13-14

84. Tilvi, V., Malhotra, S., Rhoads, J., Scannapieco, E., Hibon, P., Thacker, R., Iliev, I., Mellema, G., Wang, J., Veilleux, S., Swaters, R., Probst, R., Krug, H., Finkelstein, S., Dickinson, M., American Astronomical Society, AAS Meeting #217, #214.01.