

CONDENSED  
MATTER  
(ASTRO)PHYSICS  
X-RAY DUST  
STUDIES

1. Condensed Matter Astrophysics: A Prescription for Determining the Species-Specific Composition and Quantity of Interstellar Dust using X-rays  
**Lee J.C.**, Xiang J., Ravel B., Kortricht J., Flanagan K., 2009, ApJ., in press (arXiv:0906.3720)
2. Solid State Astrophysics: Probing Interstellar Dust and Gas Properties with X-rays  
**Lee J.C.** et al., 2009, White Paper submitted in response to the 2010 Decadal Review for Astronomy and Astrophysics (arXiv:0902.4671)
3. Determining the grain composition of the interstellar medium with high resolution X-ray spectroscopy  
**Lee J.C.**, and Ravel B., ApJ, 2005, 622, 970
4. Using the X-Ray Dust Scattering Halo of 4U 1624-490 to Determine Distance and Dust Distributions  
Xiang, J., **Lee J.C.**, Nowak M.A., ApJ, 2007, 660, 1309

X-RAY BINARIES

1. The accretion disk corona and disk atmosphere of 4U 1624-490 as viewed by the Chandra-HETGS  
Xiang, J., **Lee J.C.**, Nowak M.A., Wilms J., Schulz N.S., 2009, ApJ, 701, 984
2. Accretion disk winds as the jet suppression mechanism in the microquasar GRS 1915+105  
Neilsen J. and **Lee J.C.**, 2009, Nature, 458, 481
3. Spectroscopic Signatures of the Superorbital Period in the Neutron Star Binary LMC X-4  
Neilsen J., **Lee J.C.**, Nowak M.A., Dennerl K., Dil Vrtilek S., 2009, ApJ., **696**, 182-191 (arXiv:0902.0786)
4. Chandra X-ray spectroscopy of the focused wind in the Cygnus X-1 system I. The non-dip spectrum in the low/hard state  
Hanke M., Wilms J., Nowak, M.A., Pottschmidt K., Schulz, N.S., **Lee J.C.**, 2009, ApJ., 690, 330
5. The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657-415  
Chakrabarty D., Wang Z., Juett A.M., **Lee J.C.**, Roche P., 2002, ApJL, 573, 789-793
6. High resolution Chandra HETGS and RXTE observations of the microquasar GRS 1915+105: A hot disk atmosphere & cold gas enriched in Iron and Silicon  
**Lee J.C.**, Reynolds C.S., Remillard R., Schulz N.S., Blackman E.G., Fabian A.C., 2002, ApJ., 567, 1102-1111
7. The First High Resolution X-ray Spectrum of Cyg X-1 : Soft X-ray Ionization and Absorption  
Schulz N.S., Cui W., Canizares C.R., Marshall H.L., **Lee J.C.**, Miller J.M., Lewin W.H.G., 2002, ApJ., 565-581 1141-1149 (C49)
8. The ionized stellar wind in Vela X-1 during eclipse  
Schulz J.S., Canizares C.R., **Lee J.C.**, Sako M., 2002, ApJL, 564, L21-25
9. Double-peaked X-Ray Lines from the Oxygen/Neon-rich Accretion Disk in 4U 1626-67  
Schulz N.S., Chakrabarty D., Marshall H.L., Canizares C.R., **Lee J.C.**, Houck J., 2001, ApJ., 563, 941-949

1. The Suzaku View of Reflection, Absorption, and the Dist-Jet Connection in the Radio-Loud AGN 3233  
Evans D.A., **Lee J.C.**, Kraft, R.P., Hardcastle M.J., ApJ., submitted
2. XMM-Newton Observations of the Nuclei of the Radio Galaxies 3C 305, DA 240, and 4C 73.08  
Evans D.A., Hardcastle M.J., **Lee J.C.**, Kraft, R.P., Worrall, D. M., Birkinshaw M., Croston, J. H., 2008. 688, 844
3. A Radio through X-Ray Study of the Jet/Companion-Galaxy Interaction in 3C 321  
Evans D.A., Fong W-F, Hardcastle M.J., Kraft R.P., **Lee J.C.**, Worrall D.M., Birkinshaw M., Croston J.H., Muxlow T.W.B., 2008, 675, 1057
4. Probing Unification with Chandra HETGS and XMM-Newton EPIC and RGS Spectroscopy of the Narrow Emission Line Galaxy NGC 2110  
Evans D.A., **Lee J.C.**, Turner J., Weaver K., Marshall H.L., 2007, ApJ., 671, 1345
5. Line Variability in the High-Resolution X-Ray Spectrum of MCG -6-30-15  
Gibson, R.R., Canizares, C.R. Marshall, H.L., Young A.J., **Lee J.C.**, ApJ , 2007, 655, 749
6. The Chandra, Hubble Space Telescope, and VLA View of the Circumnuclear Extended Emission in the Narrow Emission Line Galaxy NGC 2110  
Evans, D.A., **Lee J.C.**, et al., ApJ., 2006, ApJ., 653, 1121
7. Intrinsic Absorption in the Spectrum of NGC 7469: Simultaneous Chandra, FUSE, and STIS Observations  
Scott, J.E., Kriss, G.A., **Lee J.C.**, et al., 2005, ApJ, 634, 193S
8. A Chandra HETGS Spectral Study of the Iron K Bandpass in MCG-6-30-15: A Narrow View of the Broad Iron Line  
Young A.J., **Lee J.C.**, Fabian A.C., Reynolds C.S., Gibson R. R., Canizares C. R., 2005, ApJ., 631, 733
9. The High Resolution X-ray Spectrum of MR 2251-178 Obtained with the Chandra HETGS  
Gibson R.R., Marshall H.L, Canizares C.R., **Lee J.C.**, 2005, ApJ, 627, 83
10. The soft X-ray absorption lines of the Seyfert 1 galaxy MCG-6-30-15  
Turner A.K., Fabian A.C., **Lee J.C.**, Vaughan S., 2004, MNRAS, 353, 319-328
11. Intrinsic Absorption in the Spectrum of Mrk 279: Simultaneous Chandra, FUSE, and STIS Observations  
Scott J., Kriss G., **Lee J.C.**, Arav N., Ogle P., Roraback K., Weaver K., Alexander T., Brotherton M., Green R., Hutchings J., Kaiser M.E., Marshall H.L., Oegerle W., Zheng W., 2004, ApJS, 152, 1-27
12. The hard X-ray spectrum of the Seyfert galaxy IRAS 18325-5926: cool corona, reflection from an ionized disk, and variable iron K emission  
Iwasawa K., **Lee J.C.**, Young A.J., Reynolds C.S., Fabian A.C., 2004, MNRAS, 347, 411-420
13. A softer look at MCG-6-30-15 with XMM-Newton  
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14. Testing the Seyfert Unification Theory : Chandra HETGS observations of NGC 1068  
Ogle P.M., Brookings T., Canizares C.R., **Lee J.C.**, Marshall H.L., 2003, A&A, 402, 849-864
15. A long hard look at MCG-6-30-15 with XMM-Newton  
Fabian A.C., Vaughan S., Nandra K., Iwasawa I., Ballantyne D.R., **Lee J.C.**, DeRosa A., Turner A., Young A. J., 2002, MNRAS, 335, L1-5

16. The shape of the relativistic iron  $K\alpha$  line from MCG–6-30-15 measured with the Chandra HETGS and RXTE  
**Lee J.C.**, Iwasawa K., Houck J. C., Fabian A. C., Marshall, H.L., Canizares, C.R., 2002, ApJ, 570, L47
17. Revealing the Dusty Warm Absorber in MCG–6-30-15 with the Chandra HETG  
**Lee J.C.**, Ogle P.M, Canizares C.R., Marshall H.L., Schulz N.S., Morales R., Fabian A.C., Iwasawa I., 2001, ApJ., **554**, L13-17
18. The X-ray narrow-line region of NGC 4151  
Ogle P.M., Marshall H.L., **Lee J.C.**, Canizares C.R., 2000, ApJ., **545**, L81-84
19. The X-ray variability of the Seyfert 1 galaxy MCG–6-30-15 from long ASCA and RXTE observations  
**Lee J. C.**, Fabian, A. C., Reynolds C. S., Brandt, W. N., Iwasawa I. 2000, MNRAS, **318**, 857-874
20. First Constraints on Iron Abundance versus Reflection Fraction from the Seyfert 1 Galaxy MCG–6-30-15  
**Lee J. C.**, Fabian A. C., Brandt, W. N., Reynolds C. S., Iwasawa K. 1999, MNRAS, **310**, 973-981
21. An RXTE Observation of the Seyfert 1 Galaxy MCG–6-30-15 : X-ray Reflection and the Iron Abundance  
**Lee J. C.**, Fabian A. C., Reynolds C. S., Iwasawa K., Brandt, W. N., 1998 MNRAS, **300**, 583-588

COSMOLOGY:  
IGM

1. Chandra Discovery of O VIII Resonant Absorption from the Intergalactic Medium Along the sightline Toward PKS 2155-304  
Fang T., Marshall, H.L., **Lee J.C.**, Davis, D., Canizares, C.R., 2002, ApJ, 572, L127-130
2. A Chandra HETG Observation of the Quasar H 1821+643 and its surrounding cluster  
Fang T., Davis D.S., **Lee J.C.**, Marshall H.L., Byran G.L., Canizares C.R., 2002, ApJ., 565, 86-95

COSMOLOGY:  
DARK ENERGY<sup>†</sup>

1. The Distant Type Ia Supernova Rate  
Pain R., Fabbro S., Sullivan M., Ellis R. S., Aldering G., Astier P., Deustua S. E., Fruchter A. S., Goldhaber G., Goobar A., Groom D. E., Hardin D., Hook I. M., Howell D. A., Irwin M. J., Kim A. G., Kim M. Y., Knop R. A., **Lee J.C.**, et al. 2002, ApJ., 577, 120-132
2. The Acceleration of the Universe: Measurements of Cosmological Parameters from Type Ia Supernovae  
Goobar A., Perlmutter S., Aldering G., Goldhaber G., Knop R. A., Nugent P., Castro P. G., Deustua S., Fabbro S., Groom D. E., Hook I. M., Kim A. G., Kim M. Y., **Lee J.C.**, et al., 2000, Physica Scripta Volume T, 85, 47
3. <sup>†</sup>Measurement of  $\Omega$  and  $\Lambda$  from 42 High-Redshift Supernovae  
Perlmutter S., Aldering G., Goldhaber G., Knop R. A., Nugent P., Castro P. G., Deustua S., Fabbro S., Goobar A., Groom D. E., Hook I. M., Kim A. G., Kim M. Y., **Lee J. C.**, Nunes N. J., Pain R., Pennypacker C. R., Lidman C., Ellis R. S., Irwin M., McMahon R. G., Ruiz-Lapuente P., Walton N., Schaefer B., Boyle B. J.,

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<sup>†</sup>Paper and project for which I was a co-recipient of the 2007 Gruber Cosmology Prize as a member/collaborator of the Supernova Cosmology Project headed by Dr. S. Perlmutter at Lawrence Berkeley National Laboratory. The 2007 Prize was awarded to S. Perlmutter and B. Schmidt, and their respective core teams.

Filippenko A. V., Matheson T., Fruchter A. S., Panagia N., Newberg H. J. M., Couch W. J. 1999, *Ap.J.*, **517**, 565-586

4. Measurements of the Cosmological Parameters  $\Omega$  and  $\Lambda$  from the First 7 Supernovae at  $z \geq 0.35$   
Perlmutter S., Gabi S., Goldhaber G., Groom D. E., Hook I. M., Kim A. G., Kim M. Y. **Lee J. C.**, Pennypacker C. R., Small I. A., Goobar A., Pain R., Ellis R. S., McMahon R. G., Boyle B. J., Bunclark P. S. Carter D., Irwin M.J., Glazebrook K., Newberg H. J. M., Filippenko A. V., Matheson T., Dopita M., Couch W. J., 1997, *Ap. J.*, **483**, 565
5. † Implications for the Hubble Constant from the First 7 Supernovae at  $z \geq 0.35$   
Kim A. G., Gabi S., Goldhaber G., Groom D. E., Hook I. M., Kim M. Y. **Lee J. C.**, Pennypacker C. R., Small I. A., Goobar A., Pain R., Ellis R. S., McMahon R. G., Boyle B. J., Bunclark P. S. Carter D., Irwin M.J., Glazebrook K., Newberg H. J. M., Filippenko A. V., Matheson T., Dopita M., Couch W. J., *et.al*, 1997, *Ap. J. Letters*, **476**, L63
6. † Type Ia Supernovae Rate at  $z \sim 0.4$   
Pain R., Hook I. M., Deustua S., Gabi S., Goldhaber G., Goobar A., Groom D., Kim A. G., Kim M. Y. **Lee J. C.**, Pennypacker C. R., Perlmutter S., Small I. A., Ellis R. S., McMahon R. G., et al. 1996, *Ap. J.*, **473**, 356

#### MISC

1. X-ray line emission from the hot stellar wind of  $\theta^1$  Ori C  
N.S. Schulz, C.R. Canizares, D. Huenemoerder, **J.C. Lee**, 2000, *ApJ.*, **545**, L135-139

#### PRESS RELEASES

1. 2009 March 25 – MICROQUASAR  
*Erratic Black Hole Regulates Itself*  
Neilsen J. and **Lee J.C.**, 2009, *Nature*, 458, 481  
<sup>1</sup>Chandra release
2. 17 December 2008 – RADIO LOUD AGN  
*Death Star Galaxy Black Hole Fires at Neighboring Galaxy*  
Evans D.A., Fong W-F, Hardcastle M.J., Kraft R.P., **Lee J.C.**, Worrall D.M., Birkinshaw M., Croston J.H., Muxlow T.W.B., 2008, 675, 1057  
<sup>2</sup>NASA Press Conference; Chandra, Hubble, Spitzer, VLA press release
3. 31 July 2002 – INTERGALACTIC MEDIUM  
*Chandra Discovers "Rivers Of Gravity" That Define Cosmic Landscape*  
Fang T., Marshall, H.L., **Lee J.C.**, Davis, D., Canizares, C.R., 2002, *ApJ*, 572, L127  
<sup>3</sup>Chandra press release
4. 2000 June 5 – RADIO QUIET AGN  
*Chandra observes cloud powered by black hole in distant galaxy*  
Ogle P.M., Marshall H.L., **Lee J.C.**, Canizares C.R., 2000, *ApJ.*, **545**, L81  
<sup>4</sup>Chandra press
5. 1996 January 16 – DARK ENERGY  
*Discovery of Most Distant Supernovae - Indicators of the Fate of the Universe*  
By the † Supernova Cosmology Project; prepared by the offices of AAS, LBL and NSF

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<sup>1</sup>[http://chandra.harvard.edu/press/09\\_releases/press\\_032509.html](http://chandra.harvard.edu/press/09_releases/press_032509.html)

<sup>2</sup>[http://chandra.harvard.edu/press/07\\_releases/press\\_121707.html](http://chandra.harvard.edu/press/07_releases/press_121707.html)

<sup>3</sup>[http://chandra.harvard.edu/press/02\\_releases/press\\_073102.html](http://chandra.harvard.edu/press/02_releases/press_073102.html)

<sup>4</sup>[http://chandra.harvard.edu/press/00\\_releases/press\\_060500ngc.html](http://chandra.harvard.edu/press/00_releases/press_060500ngc.html)

1. Solid State Astrophysics: Probing Interstellar Dust and Gas Properties with X-rays  
**Lee J.C.** et al., 2009, White Paper submitted in response to the 2010 Decadal Review for Astronomy and Astrophysics (arXiv:0902.4671)
2. Parallelizing the XSTAR Photoionization Code  
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3. Intrinsic FUV absorption in Mrk 290  
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4. Prospects for determining the grain composition of the interstellar medium with Astro E2?  
**Lee J.C.** & Ravel B. in “X-ray Diagnostics of Astrophysical Plasmas: Theory, Experiment, and Observation. AIP Conference Proceedings, Volume 774, 255
5. Black hole systems seen at high spectral resolution : Inflow and Outflow  
**Lee J.C.**, in “From X-ray Binaries to Quasars: Black Hole Accretion on All Mass Scales”, ed. T. J. Maccarone, R. P. Fender, and L. C. Ho (Dordrecht: Kluwer)
6. Probing X-ray Emitting Plasma with High Resolution Chandra and XMM-Newton Spectra  
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7. Probing the cosmic X-ray laboratory with the Chandra HETGS Flanagan, Kathryn A.; Canizares, Claude R.; Dewey, Daniel; Fredericks, A.; Houck, J. C.; Lee, J. C.; Marshall, Herman L.; Schattenburg, Mark L., SPIE, 2003, 4851, 45
8. Chandra Detection of the X-ray Absorption from Local Warm/Hot Gas  
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9. Probing the Cosmic X-ray Laboratory with the Chandra HETGS  
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10. The Chandra HETGS and RXTE view of GRS 1915+105 **Lee J. C.**, Reynolds C.S., Remillard R., Schulz N.S., Blackman E.G., Fabian A.C., in Proceedings of the 4th Microquasar Workshop, 2002, eds. Durouchoux, Fuchs & Rodriguez, in press (astro-ph/0208187)
11. Probing MCG–6-30-15 with the Chandra HETGS  
**Lee J. C.**, et al. in X-ray Spectroscopy of AGN with Chandra and XMM-Newton MPE report, eds Th. Boller, S. Komossa, S. Kahn, H. Kunieda, 2002, vol 279, 9 (<http://www.xray.mpe.mpg.de/~bol/agnspec/programm.html>)
12. Chandra probes the dusty warm absorber in the Seyfert 1 galaxy MCG–6-30-15  
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Invited ‘debate’ at ‘X-ray Emission from Accretion onto Black Holes’ - J. Hopkins (<http://www.pha.jhu.edu/groups/astro/workshop2001/papers/>, and astro-ph/0110634)
13. X-Ray Plasma Diagnostics of Stellar Winds in Young Massive Stars  
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14. Chandra - ASCA - RXTE observations of microquasar GRS 1915+105  
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15. A Simultaneous ASCA and RXTE Long-Look at the Seyfert 1 Galaxy MCG-6-30-15  
**Lee J. C.**, Fabian A. C., Iwasawa K., Brandt, W. N., Reynolds C. S.  
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16. An RXTE Observation of MCG-6-30-15 : Constraints on the Iron Abundance and Reflective Fraction Relationship  
**Lee J. C.**, Fabian A. C., Reynolds C. S., Iwasawa K., Brandt, W. N.  
 'The Active X-ray Sky', 1998, Nuclear Phys B Proc Suppl., 486
17. RXTE Detection of Broad Iron Line and Reflection Continuum in MCG-6-30-15  
**Lee J. C.**, Fabian A.C., Reynolds C.S., Iwasawa K., Brandt W.N.,  
 'Accretion Processes in Astrophysical Systems : Some Like it Hot', Eds. S.S. Holt & T.R. Kallman, 1997, AIP Conference Proceedings, 431, 195 (1998)
18. High-redshift Supernova Discoveries on Demand: First Results from a New Tool for Cosmology and Bounds on  $q_0$   
 S. Perlmutter, et al. *Nuclear Physics B (Proc. Suppl.)*,

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*(Thermonuclear Supernovae, NATO ASI, ed. R. Canal, P. Ruiz-LaPuente, J. Isern )*

19. Scheduled Discoveries of 7+ High Redshift Supernovae: 1st Cosmology Results and Bounds on  $q_0$   
 Supernova Cosmology Project : Perlmutter S., Deustua S., Gabi S., Goldhaber G., Groom D., Hook I. Kim A. G., Kim M. Y. **Lee J.**, Pain R., Pennypacker C., Small I., Goobar A., Ellis R. S., Glazebrook K., McMahan R. G., Boyle B., Bunclark P. S. Carter D., Irwin M.J., Newberg H. J. M., Filippenko A. V., Matheson T., Dopita M., Couch W..(astro-ph/9602122)
20. K-Correction for Type Ia Supernovae and a Test for Spatial Variation of the Hubble Constant  
 Kim A., Deustua S., Gabi S., Goldhaber G., Groom D., Hook I. Kim A. G., Kim M. Y. **Lee J.**, Pain R., Pennypacker C., Perlmutter S., Small I., Goobar A., Ellis R. S., Glazebrook K., McMahan R. G., Boyle B., Bunclark P. S. Carter D., Irwin M.J., Newberg H. J. M., Filippenko A. V., Matheson T., Dopita M., Couch W. (astro-ph/9602123)
21. Observations of Cosmological Time Dilation Using Type Ia Supernovae as Clocks  
 Goldhaber G., Deustua S., Gabi S., Goldhaber G., Groom D., Hook I., Kim A. G., Kim M. Y. **Lee J.**, Pain R., Pennypacker C., Perlmutter, Small I., Goobar A., Ellis R. S., Glazebrook K., McMahan R. G., Boyle B., Bunclark P. S. Carter D., Irwin M.J., Newberg H. J. M., Filippenko A. V., Matheson T., Dopita M., Couch W. (astro-ph/9602124)
22. The Type Ia Supernova Rate at  $z \sim 0.4$ ; By Supernova Cosmology Project  
 Pain R., Hook I., Perlmutter S. Deustua S., Gabi S., Goldhaber G., Groom D., Hook I. Kim A. G., Kim M. Y. **Lee J.**, Pennypacker C., Small I., Goobar A., Ellis R. S., Glazebrook K., McMahan R. G., Boyle B., Bunclark P. S., Carter D., Irwin M.J., Newberg H. J. M., Filippenko A. V., Matheson T., Dopita M., Couch W. (astro-ph/9602125)