

Curriculum Vitae – Casey J. Law

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1 Education

Northwestern University, Ph.D., Astrophysics (2007)

Boston University, M.A., Astronomy (2000)

University of Hawai‘i, B.S. with distinction, Physics (1998)

2 Employment

Summer 2006 – present: Postdoctoral Fellow at the University of Amsterdam under Ralph Wijers and Michael Wise. I work on the commissioning of the Low Frequency Array (LOFAR), with a focus on issues related to the LOFAR Transients Key Project. The project will use LOFAR to survey the sky for low-frequency, transient sources.

Summer 2002 – Summer 2006: Performed research with Prof. Farhad Yusef-Zadeh at Northwestern University. My research has made use of X-ray and radio observations to study many aspects of the Galactic center environment. In particular, we have studied on the X-ray emission from dense stellar clusters and molecular clouds, performed single-dish and interferometric radio observations, and a *Spitzer*/IRAC infrared survey of the GC region.

Fall 2003 – Summer 2006: Provided tours of the historic Dearborn Observatory at Northwestern University approximately once per month. Tours are open to the public and include viewings of objects in the night sky.

Spring 2004: Teaching Assistant at Northwestern University.

Fall 2000 – Spring 2002: Astrophysicist at the Harvard-Smithsonian Center for Astrophysics. I worked on the development, testing, and documentation of the CIAO software package for the *Chandra X-Ray Observatory*. My responsibilities also included supporting *Chandra* users with their data reduction needs and problems.

Fall 1999 – Summer 2000: Performed research with Prof. James Jackson of Boston University. As a member of the BU-FCRAO Galactic Ring Survey, I helped with observing, processing, and analyzing data from the 14 m FCRAO telescope.

Fall 1999 – Spring 2000: Taught lab sections under the Presidential University Teaching Fellowship.

Fall 1998 – Fall 1999: Performed research as a Presidential University Graduate Fellow with Prof. Kenneth Janes of Boston University. My research involved developing new systems of analyzing photometry of stellar clusters.

Summer 1999: Interned at Textron Systems Kaua'i, developing plans for a new electro-optics site at the Pacific Missile Range Facility on Kaua'i.

Spring 1999: Performed research as a Presidential University Graduate Fellow with Prof. Teresa Brainerd of Boston University. My research with Prof. Brainerd made use of BU's supercomputer to study galaxy clustering in Keck images of QSO fields.

Summer 1998: Worked with Saroj Sahu in the High Energy Physics Group at the University of Hawai'i on the BELLE project. BELLE's purpose was to detect CP violation at the KEK-B particle accelerator in Japan. The work consisted of designing and testing data acquisition hardware and software.

Fall 1997 – Spring 1998: Performed research as a Hawai'i Space Grant Fellow with Prof. James Heasley of the Institute for Astronomy in Honolulu. I worked on the analysis of observations of the globular cluster M71 with the UH 2.2 m and the Canada-France-Hawaii Telescopes.

3 Observing Experience

LOFAR: Proposed and analyzed assorted commissioning projects with the first prototype station, Core Station 1.

Very Large Array: Proposed and analyzed continuum surveys of the Galactic center at 6 and 20 cm. Proposed and analyzed OH maser obser-

vations of stellar cluster G25.25–0.16. Attended NRAO Synthesis Imaging Summer School in 2003.

Green Bank Telescope: Proposed and conducted polarized continuum observations of the Galactic center at 3.6 and 6 cm. Assisted in observing 3.6, 6, 20, 90 cm continuum surveys of the Galactic center. Proposed and conducted 6 cm radio recombination line observations of the Galactic center. Attended NRAO Single-Dish Summer School in 2004.

Chandra X-Ray Observatory: Planned observing proposals and analyzed data from the ACIS. Supported observers while working at the Chandra X-Ray Center.

Spitzer Space Telescope: Participated in proposal and analysis of IRAC survey the Galactic center.

FCRAO 14 m: Conducted remote observations for a survey of rotational transitions of ^{13}CO and CS.

Boston University-Lowell Perkins 72 inch: Observed independently and cooperatively on optical and near-IR projects.

4 Fellowships and Honors

2005: Awarded NRAO-GBT Student support grant toward the analysis of GBT polarized continuum surveys of the Galactic center.

2004: Awarded NRAO-GBT Student support grant toward the analysis of multiwavelength GBT surveys of the Galactic center.

2004: Awarded *Chandra* archival research grant to develop a spatio-spectral analysis technique for *Chandra* observations.

2002 – 2003: Huang Fellowship at Northwestern University

2002: College Summer Research Program Participant (Illinois Space Grant Consortium and NASA)

1999: Boston University Presidential University Teaching Fellowship

1998: Boston University Presidential University Graduate Fellowship

1995 – 1998: Four merit-based tuition waivers from the Department of Physics at the University of Hawai‘i

1997: Hawai‘i Space Grant Fellowship

1997: ΣΠΣ (the honor society of the Society of Physics Students) member

5 Refereed Publications

“GBT Multiwavelength Survey of the Galactic Center Region”

Law, C. et al. 2007, ApJ submitted

“A 6 and 20 cm Survey of the Galactic Center II: Spectral Index and Polarization Study of Nonthermal Filaments”

Law, C. et al. 2007, ApJS submitted

“Mid-Infrared Colors of the ISM toward the Galactic Center”

Arendt, R. et al. 2007, ApJ submitted

“The Cool Supergiant Population of the Massive Young Star Cluster RSGC1”

Davies, B. et al. 2007, ApJ submitted

“Diffuse, Nonthermal X-Ray Emission from the Galactic Star Cluster Westerlund 1”

Muno, M. P., Law, C., et al. 2006, ApJ, 650, 203

“A Neutron Star with a Massive Progenitor in Westerlund 1”

Muno, M. P. et al. 2006, ApJ, 636, L41

“The Nature of Nonthermal X-Ray Filaments Near the Galactic Center”

Yusef-Zadeh, F., Wardle, M., Muno, M., Law, C., & Pound, M. 2005, AdSpR, 35, 1074

“X-Ray Observations of Stellar Clusters Near the Galactic Center”

Law, C. & Yusef-Zadeh, F. 2004, ApJ, 611, 858

“Nonthermal Emission from the Arches Cluster (G0.121+0.017) and the Origin of Gamma-Ray Emission from 3EG J1746-2851”

Yusef-Zadeh, F., Nord, M., Wardle, M., Law, C., Lang, C., & Lazio, T. J. W. 2003, ApJ, 590, 103

“Detection of X-Ray Emission from the Arches Cluster near the Galactic Center”

Yusef-Zadeh, F., Law, C., Wardle, M., Wang, Q. D., Fruscione, A., Lang, C. C., & Cotera, A. 2002, ApJ, 570, 665

“The Origin of X-Ray Emission from a Galactic Center Molecular Cloud: Low-Energy Cosmic-Ray Electrons” Yusef-Zadeh, F., Law, C., & Wardle, M. 2002, ApJ, 568, L121

“A Comparison of ^{13}CO and CS Emission in the Inner Galaxy” McQuinn, K.B.W., Simon, R., Law, C. J., Jackson, J. M., Bania, T. M., Clemens, D. P., & Heyer, M. H. 2002, ApJ, 576, 274

Papers in preparation

“Evidence for a Mini-Starburst in the Galactic Center” Law, C., et al. 2007, in preparation

“Observations of Polarized Radio Continuum Emission Near the Galactic Center” Law, C., et al. 2007, in preparation

“Radio Recombination Line Observations of the Galactic Center Lobe” Law, C., et al. 2007, in preparation

6 Nonrefereed Publications and Talks

“A Survey for Transient Sources with LOFAR/CS1” Talk at “Wide-field monitoring of the dynamic radio sky”, a June 2007 workshop in Kerastari, Greece.

“The LOFAR Transients key project” Fender, R.P. et al. 2006, Proceedings of the Sixth Microquasar workshop: Microquasars and Beyond. Edited by T. Belloni et al. Proceedings of Science, 2006 (astro-ph/0611298).

“A Study of the Galactic Center Lobe” Dissertation talk at 207th AAS meeting (103.05), Washington D.C.

“Evidence for a Mass Outflow from the Galactic Center?” Talk presented at the NRAO Array Operations Center in August 2005 in Socorro, NM

“Internal Irradiation of the Sgr B2 Molecular Cloud” Talk presented at the “High Energy Phenomena in the Galactic Center” meeting in June 2005 in Paris, France

“Multiwavelength GBT Survey of the Continuum Emission from the Inner Few Degrees of the Galactic Center” Law, C., Yusef-Zadeh, F., Roberts, D., Hewitt, J., Cotton, W., & Maddalena, R. 2004, BAAS, 204, 5902

“X-Ray and Radio Observations of Two Galactic Center Star-forming Regions” Law, C., & Yusef-Zadeh, F. 2005, in X-Ray and Radio Connections, eds. L.O. Sjouwerman and K.K. Dyer (published electronically by NRAO, <http://www.aoc.nrao.edu/events/xraydio>), 3.06

“X-Ray Emission from Stellar Clusters Near the Galactic Center” Law, C. & Yusef-Zadeh, F. 2002, BAAS, 200, 4403

“X-Ray Emission from Stellar Clusters Near the Galactic Center” Law, C. & Yusef-Zadeh, F. 2003, ANS, Supplementary Issue 1, Galactic Center Workshop 2002 - The central 300 parsecs of the Milky Way., 271

“Analyzing the Relative Ages of Thick Disk Globular Clusters” Talk presented at the Hawai‘i Space Grant consortium meeting in 1998 in Honolulu, HI

“The BU-FCRAO Galactic Ring Survey: Comparison of CS with ¹³CO Emission” Law, C., et al. 2000, BAAS, 196, 2505