Chien-Ting J. Chen

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Personal

Citizen of Taiwan, R.O.C.
Language: Fluent in Mandarin Chinese, English, Taiwanese and elementary proficiency in Japanese.

EDUCATION

Ph. D. Candidate, Astronomy
Dartmouth College, Hanove, NH — Spring 2015 (expected)
Dissertation: AGN accretion, obscuration and star formation in luminous galaxies
Advisor: Professor Ryan Hickox.

Master of Science, Astronomy
National Tsing Hua University, Taiwan (NTHU) — June 2007
Thesis: The relativistic shockwave solutions in the collapse of singular isothermal sphere
Advisor: Dr. Mike J. Cai

Bachelor of Science, Physics
National Tsing Hua University, Taiwan (NTHU) — June 2005

List of Publications

Refereed Publications

First Author

Chen, Chien-Ting J.; Hickox, Ryan C.; Alberts, Stacey; Brodwin, Mark; Jones, Christine; Murray, Stephen S.; Alexander, David M.; Assef, Roberto J.; Brown, Michael J. I.; Dey, Arjun; Forman, William R.; Gorjian, Varoujan; Goulding, Andrew D.; Le Floc'h, Emeric; Jannuzi, Buell T.; Mullaney, James R.; Pope, Alexandra. A Correlation between Star Formation Rate and Average Black Hole Accretion in Star-forming Galaxies. *The Astrophysical Journal*, v. 773, Issue 1, article id. 3, 9 pp. (2013).

Chen, Chien-Ting J. et al., A connection between obscuration and star formation in luminous quasars, *ApJ submitted (2014)*

Co-author

Peterson, B. M.; Grier, C. J.; Horne, Keith; et al. (including **Chen, Chien-Ting**). Reverberation Mapping of the Seyfert 1 Galaxy NGC 7469. *eprint arXiv:1409.4448*

Hickox, Ryan C.; Mullaney, James R.; Alexander, David M.; Chen, **Chen, Chien-Ting J.**; Civano, Francesca M.; Goulding, Andy D.; Hainline, Kevin N. Black hole variability and the star formation-AGN connection: Do all star-forming galaxies host an AGN? ApJ in press (2014)

Milisavljevic, Dan; Soderberg, Alicia M.; Margutti, Raffaella et al. (including **Chen, Chien-Ting**). SN 2012au: A Golden Link between Superluminous Supernovae and Their Lower-luminosity Counterparts. *The*

Astrophysical Journal Letters, v. 770, Issue 2, article id. L38, 6 pp. (2013).

Grier, C. J.; Peterson, B. M.; Horne, Keith; et al. (including **Chen, Chien-Ting**). The Structure of the Broad-line Region in Active Galactic Nuclei. I. Reconstructed Velocity-delay Maps. *The Astrophysical Journal*, v. 764, Issue 1, article id. 47, 15 pp. (2013)

Grier, C. J.; Peterson, B. M.; Pogge, R. W. et al. (including **Chen, Chien-Ting**). Reverberation Mapping Results for Five Seyfert 1 Galaxies. *The Astrophysical Journal*, v. 755, Issue 1, article id. 60, 16 pp. (2012)

Grier, C. J.; Peterson, B. M.; Pogge, R. W. et al. (including **Chen, Chien-Ting**). A Reverberation Lag for the High-ionization Component of the Broad-line Region in the Narrow-line Seyfert 1 Mrk 335. *The Astrophysical Journal Letters*, v. 744, Issue 1, article id. L4, 5 pp. (2012)

Unpublished works and Conference Proceedings

Work in Progress

Chen, Chien-Ting J. et al., The infrared and X-ray views of luminous quasars *(to be submitted, 2014)*

Chen, Chien-Ting J. et al., Relativistic self-similar dynamic collapses of black holes in singular isothermal spherical clouds *(to be submitted, 2014)*

Chen, Chien-Ting J. et al., Does nuclear obscuration trace host galaxy star formation? A study of Fe K-alpha line in the 4MS CDFS, *(in preparation, 2015)*

Conference Proceedings

Chen, Chien-Ting J. and Hickox, Ryan C., A correlation between star formation rate and average black hole accretion rate in star forming galaxies. Conference proceedings for IAU Symposium No. 304: Multiwavelength AGN Surveys and Studies

Master Thesis

Chen, Chien-Ting J. General Relativistic Shockwaves in the Collapse of Singular Isothermal Sphere

Research Interests

1. Galaxy evolution
2. Coevolution between galaxies and SMBHs
3. AGN characteristics, formation and evolution of SMBHs
4. Large scale structure

Relevant Experience

- I have extensive experience in analyzing multiwavelength data of galaxies and AGNs in wide-field extragalactic surveys. I have also developed SED decomposition tools in IDL and Python to disentangle the SEDs with contributions from both AGN and host galaxy.
- I have experience in X-ray spectral analysis using XSPEC and SHERPA. I am also familiar with the *STACKFAST* code developed in our research group which adopts X-ray stacking techniques to study the average X-ray spectra of a large number of sources.
- I have 20 nights of observing experience in both of the 2.4m and 1.3m telescopes at MDM observatory, which includes photometric, multi-object and long-slit spectroscopic observations. I also have experience in reducing and analyzing optical spectra.
- I have solid background in the theoretical framework of SMBH accretion. In particular, I developed numerical and analytical shockwave solutions to the collapse of general relativistic sphere.

Technical Skills

Proficient in: IDL, Python (scipy, numpy, pandas), LaTeX, C
Experience in: IRAF, HTML, CSS, Fortran, PHP and MySQL.

Presentations

I have actively participated in scientific meetings and presented 8 talks and 4 posters since 2012:
Talk, 2014.7 "Obscuration and star formation in luminous quasars", AGN vs SF workshop, Durham, UK
Talk, 2014.5, "Obscuration and star formation in luminous Quasars", New England Regional Quasar Meeting, Center for Astrophysics, Cambridge, MA, USA
Poster, 2014.5, "The links between AGNs and the star formation in their host galaxies", Multiwavelength-surveys: Galaxy Formation and Evolution from the early universe to today Dubrovnik, Croatia
Talk, 2013.10, " A correlation between star formation rate and average black hole accretion in star forming galaxies", IAU symposium: Multiwavelength AGN Surveys and Studies, Yerevan, Armenia
Talk, 2013.09, "The links between AGNs and the star formation in their host galaxies", Center for Astrophysics, Cambridge, MA, USA
Talk, 2013.05, " A correlation between star formation rate and average black hole accretion in star forming galaxies", New England Regional Quasar Meeting, MIT Haystack Observatory, MA, USA
Poster, 2013.03, " A correlation between star formation rate and average black hole accretion in star forming galaxies" , AAS High energy astrophysics division meeting, Monterey, CA, USA
Talk, 2012.11, "Probing the hidden AGN activities in star-forming galaxies ", ASIAA, Taiwan
Talk, 2012.11,"The evolution links between galaxies and black holes", NTHU, Taiwan
Talk, 2012.11, "AGN Obscuration and the links between star formation and BH growth", TIARA, Taiwan
Poster, 2012.07 " A correlation between star formation rate and average black hole accretion in star forming galaxies" , The Black hole feedback workshop, Dartmouth College, USA
Poster, 2012.05 " A correlation between star formation rate and average black hole accretion in star forming galaxies", New England Regional Quasar Meeting, MIT, MA, USA

Teaching and Public Outreach

Teaching Assistant, Dartmouth College
PHYS 013 Introductory Physics I, II
ASTR 117 Interstellar Astrophysics
ASTR 002/003 Exploring the Universe
ASTR 001 Solar System

Teaching Assistant, NTHU
General Physics Lab I, II

Public Outreach
Public Observing at Dartmouth College (2010-2012, for general public)
Public Lectures at Moultonborough Science Club, NH (2012, for elementary school students)
Public Lectures at NTHU Astronomy Club(2003, for high school students)

Awards

Dartmouth Teaching Fellowship (2009-2012)
NASA Space Grant Graduate PhD Award (Dartmouth-New Hampshire, 2014)
William H. Neukom 1964 Institute for Computational Science Graduate Fellowship (2014-2015)

Activities and Service

Member of the LOC, the Black hole Feedback Workshop, Dartmouth College, 2012
Astronomy journal club organizer, Dartmouth College, 2012-2013
Referee of Monthly Notices of the Royal Astronomical Society , 2014-