Khunanon Thongkham

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EDUCATION

University of Florida, Gainesville, FL USA

Ph.D. Astronomy, Aug 2024 M.S. Astronomy, May 2022

Thesis title: The Massive and Distant Clusters of WISE Survey 2

Advisor: Professor Anthony Gonzalez

University of Colorado at Boulder, Boulder, CO USA

B.A. Physics, May 2019 **B.A.** Astronomy, May 2019

RESEARCH Interest Galaxy cluster detection with optical and infrared photometry, galaxy cluster evolution, multiwavelength study of galaxy cluster and its components, large scale structure of

the universe, cosmology, galaxy evolution

Proposals Co-Invest

Co-Investigator on Palomar Proposal

WIRC Imaging of z \approx 2 Galaxy Cluster Candidates from WISE PI: Peter Eisenhardt 2024A, 2024B

Co-Investigator on Magellan Proposal

Moo Two: Letting MaDCoWS 2 Out of the Barn PI: Thomas Connor 2023B, 2024A

Co-Investigator on GTC Proposal

Confirmation of z ≈2 Galaxy Clusters from MaDCoWS2 PI: Anthony Gonzalez 2022B

Co-Investigator on GBT Proposal

MUSTANG-2 Observations of the Highest-Richness MaDCoWS Clusters at 0.8 < z < 1.6

PI: Mark Brodwin

2020B

Mentoring

University of Florida, Gainesville, FL

- Undergraduate Student: Ryan Spivey (University of Florida, Spring 2024)
- Undergraduate Student: Shambhavi Srivastava (University of Arizona, summer 2023)

Presentations

- 1. Finding galaxy clusters at high redshift with infrared and optical data, Talk, UF Astronomy Symposium 2023. (September 2023)
- 2. Wide Area Galaxy Cluster Survey with WISE data, Talk, UF Astronomy Symposium 2022. (October 2022)
- 3. Massive and Distant Clusters of WISE Survey 2 preliminary result, Talk, 2022 GTC VII MEETING, online. (May 2022)
- 4. Massive and Distant Clusters of WISE Survey 2, Poster, Galaxy Clusters 2022 STScI Spring Symposium, online. (Apr 2022)
- 5. A Wide Area Galaxy Cluster Survey With WISE Data, Talk, UF Astronomy Symposium 2021, online. (October 2021)
- 6. Finding Galaxy Clusters up to Redshift of 2 using Optical and Infrared Data, Talk, UF Astronomy Symposium 2020. (September 2020)

PUBLICATIONS

- 1. The Massive and Distant Clusters of WISE Survey 2: Second Data Release **Thongkham, K.**, et al., 2024, ApJ, in press (arXiv:2410.15303)
- 2. The Massive and Distant Clusters of WISE Survey 2: A Stacking Analysis Investigating the Evolution of Star Formation Rates and Stellar Masses in Groups and Clusters

Trudeau, A., et al, 2024, ApJ, 972, 1, 27 (arXiv:2406.03633) Contribution: MaDCoWS2 catalog expert

3. The Massive and Distant Clusters of WISE Survey 2: Equatorial First Data Release

Thongkham, K., et al, 2024, ApJ, 967, 2, 123 (arXiv:2403.16976)

- 4. The Massive and Distant Clusters of WISE Survey XI: Stellar Mass Fractions and Luminosity Functions of MaDCoWS Clusters at $z\approx 1$ Decker, B., et al, 2020, ApJ, 936, 1, 71 (arXiv:2112.12239) Contribution: GBT observer
- 5. The Massive and Distant Clusters of WISE Survey. X. Initial Results from a Sunyaev-Zeldovich Effect Study of Massive Galaxy Clusters at z > 1 Using MUS-TANG2 on the GBT Dicker, S., et al, 2020, ApJ, 902, 2, 144 (arXiv:2006.06703)

Contribution: GBT observer

References

Prof. Anthony Gonzalez Department of Astronomy

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Dr. Adam Stanford Department of Physics and Astronomy

University of California, Davis peter.r.eisenhardt@jpl.nasa.gov

stanford@physics.ucdavis.edu

Dr. Peter Eisenhardt Jet Propulsion Laboratory

California Institute of Technology

Programming Languages and Software

Python, Bash, LATEX, High-performance computing, Git, DS9