Abdurro'uf

Postdoctoral researcher · Extragalactic astrophysicist

3400 N Charles St. Baltimore, MD 21218, USA

fabdurr1@jhu.edu | https://aabdurrouf.github.io/ | https://github.com/aabdurrouf

Academic Appointment

Johns Hopkins University — *Baltimore, MD, USA*

Postdoctoral Fellow — *September 2022 - present*

Academia Sinica Institute of Astronomy and Astrophysics — *Taipei, Taiwan*

Postdoctoral Fellow — *November 2018 - August 2022*

Education

Astronomical Institute, Tohoku University — *Sendai, Japan*

Doctor of Science (GPA: 4.0/4.0) — *October 2015 - September 2018*

Astronomical Institute, Tohoku University — *Sendai, Japan*

Master of Science — *October 2013 - September 2015*

Physics Department, Brawijaya University — *Malang, Indonesia*

Bachelor of Science — *September 2009 - September 2013*

Research Interest

- Galaxy formation and evolution, with a particular focus on the structural evolution of galaxies across cosmic time
- Modeling the panchromatic spectral energy distribution (SED) of galaxies
- Galaxy-halo connections.
- Observational cosmology

Honors, Awards, and Funding

2024-present	**Funding for Cycle 2 JWST GO 4246 program ($223,764) as PI**, Physical Properties of a Possible Galaxy Merger at z=10.2	*USA*
2013-2018	**The Japanese Government MEXT Scholarship**, for Master and Doctoral studies	*Japan*
2013	**Silver medal**, Physics category in the National Olympiad of Mathematics and Natural Sciences for undergraduate students	*Indonesia*
2012	**Silver medal**, Physics category in the National Olympiad of Mathematics and Natural Sciences for undergraduate students	*Indonesia*

Awarded Telescope Time

2024	**PI: Abdurro'uf, Cycle 2 JWST GO 4246**, Physical Properties of a Possible Galaxy Merger at z = 10.2 (funded $223,764)

As Co-Investigator:

- 2024: Cycle 3 JWST GO 5917 (PI: Vanzella), Mapping star cluster feedback in a galaxy 500 Myr after the Big Bang
- 2024: Cycle 3 JWST GO 5328 (PI: Gonzalez), Measuring the form of the IMF in passive galaxies at z=1.2
- 2024: Cycle 3 JWST GO 5293 (PI: Xu), Galactic winds in the early universe: observing outflows in emission and absorption in a typical z∼6 galaxy
- 2023: Cycle 2 JWST GO 4212 (PI: Bradley), Unveiling the most distant lensed arc at z∼6
- 2023: Cycle 2 JWST GO 3990 (PI: Morishita), A NIRCam pure-parallel imaging survey of galaxies across the universe
- 2021: ALMA observation (PI: Morishita), Directly measuring black hole mass of a quenched galaxy at z=2.1

- 2021: 1-night MMT/Hectospec observation (PI: Huang), Unveiling the nature of isolated massive slow-rotating early-type galaxies
- 2021: 8-night SEIMEI/KOOLS-IFU observation (PI: Akiyama), A new population of extreme starburst galaxies at intermediate redshifts
- 2021: 1-night Gemini/GMOS-N observation (PI: Chen), Mechanism behind co-existence of extreme outflows and starbursts in ULIRGs
- 2020: 8-night SEIMEI/KOOLS-IFU observation (PI: Akiyama), A new population of extreme starburst galaxies at intermediate redshifts
- 2020: 3-night MMT/Hectospec observation (PI: Huang), Unveiling the nature of isolated massive slow-rotating early-type galaxies
- 2020: 4-night MMT/Hectospec observation (PI: Huang), Unveiling the nature of isolated massive slow-rotating early-type galaxies
- 2017: 1-night Subaru/FOCAS observation (PI: Akiyama), New Search for Luminous Type-2 QSOs at Intermediate Redshifts

Mentoring & Teaching

2023-2024 **Supervising undergraduate student Muhammad Nur Ihsan Effendi**, from Institute Teknologi Bandung (ITB), Indonesia. Recently graduated with a Bachelor thesis project: Study of the structures and morphologies of galaxies at z>2 with JWST data. Weekly meeting over Zoom.

2023-2024 **Supervising undergraduate student Novan Saputra Haryana**, from Institute Teknologi Bandung (ITB), Indonesia. Recently graduated with a Bachelor thesis project: Study of passive galaxies at 2<z<7 with JWST and HST data. Weekly meeting over Zoom. From Fall 2024, he is a graduate student at Tohoku University, Japan

2023 **Co-mentoring undergraduate student Turaba Rahman**, from Kent State University, USA, at the 2023 SASP (Space Astronomy Summer Program). Project title: Structural Evolution of Star Formation and Quenching in Galaxies in the Early Universe.

2022-2024 **Co-supervising graduate student Han-Tang Lin**, from National Central University, Taiwan. Project topic: spatially resolved stellar populations of Supernova-host galaxies in the local universe. He published a paper (MNRAS, 531, 1988) from this project.

2022 **Lecturer at the International Virtual Course (IVC) on Astrophysical Modeling and Computation**, held by Institut Teknologi Bandung (ITB), Indonesia. I put my lecture materials at `https://github.com/aabdurrouf/ivcitb2022`.

2016 **Mentor in a workshop on astronomical data analysis**, held by Astronomical Institute, Tohoku University, Japan

2012 **Teaching Electrodynamics class**, for a half semester at the Physics Department of Brawijaya University, Indonesia

Leadership & Management Activity

2019-2021 **Co-chair of a monthly meeting at the Academia Sinica Institute of Astronomy and Astrophysics**, focusing on the recent updates and science results related to multiple projects with the Subaru telescope. The meeting is attended by faculties, postdocs, and students

2019-2022 **System administrator of a computer cluster at ASIAA**, focusing on the recent updates and science results related to multiple projects with the Subaru telescope. The meeting is attended by faculties, postdocs, and students

Service to the Scientific Community

2022-present **Referee for ApJ, A&A**,

2024 **Proposal review external panel for ALMA Large Program (Cycle 11)**,

Software Skill

Language: Python, C++

Softaware developed:

- **`piXedfit` (pixelized SED fitting)**, a Python package for analyzing spatially resolved spectral energy distributions (SEDs) of galaxies. This Python package provides modules for image processing, spatial matching between broad-band imaging data and integral field spectroscopy (IFS) data, pixel binning, and SED fitting with the Bayesian approach. GitHub page: `https://github.com/aabdurrouf/piXedfit`

- **Accurate Hijri Calculator (AHC)**, a software for calculating the position and visibility map of the new crescent moon at sunset, marking the beginning of a new month in the Islamic lunar calendar. It has been widely used in Indonesia. GitHub page: `https://github.com/accuhijri/ahc` and website: `https://accuhijri.github.io/`. Some related links: link1, link2 (press conference), link3.

Major Collaborations

- **Cosmic Spring JWST** (2022-present)
- **Euclid consortium** (2021-present)
- **BEACON JWST** (2023-present)
- **SDSS-IV/MaNGA** (2019-2022)

Colloquia/Seminar Talks

08/2023	**2023 HotSci Summer Colloquium at STScI/JHU**, Spatially resolving properties of galaxies across cosmic time. (recording)	*Baltimore, MD, USA*
08/2023	**(Invited) Physics talk at the Department of Physics, IPB University, Indonesia**, The Hunt for First Galaxies in the Universe with JWST. (recording)	*Virtual*
06/2023	**(Invited) Public seminar held by the Astronomy research group of the National Research and Innovation Agency of Indonesia (BRIN)**, The Hunt for First Galaxies in the Universe with JWST. (link, slides)	*Virtual*
05/2023	**(Invited) Seminar talk at the Student's colloquium in the Physics Department of the Institut Teknologi Sepuluh November (ITS), Indonesia**, The Hunt for First Galaxies in the Universe with JWST	*Virtual*
02/2023	**(Invited) Astronomy discussion with STARs group at the Arizona State University (ASU)**, Spatially resolving galaxies across cosmic time	*Virtual*
11/2022	**Astro Lunch Seminar at the Kavli Institue for the Physics and Mathematics of the Universe (IPMU), The University of Tokyo**, Spatially resolving properties of galaxies across cosmic time in the era of high spatial resolution and deep imaging surveys	*Virtual*
11/2021	**(Invited) Science talk at the LU-SWG-PPZ telecon in Euclid collaboration**, Dissecting galaxies with pixelized SED fitting (`piXedfit`)	*Virtual*
04/2021	**(Invited) Colloquium at the Graduate Institute of Astronomy, National Central University (NCU)**, Spatially resolving properties of galaxies across cosmic time with `piXedfit`	*Taoyuan, Taiwan*
03/2021	**(Invited) Science talk at a teleconference of the CANDELS SED fitting working group**, Spatially resolving properties of galaxies across cosmic time with `piXedfit`	*Virtual*
02/2021	**(Invited) Colloquium at the Astronomy Department, Institut Teknologi Bandung (ITB)**, Indonesia, Spatially resolving properties of galaxies across cosmic time with `piXedfit`	*Virtual*
06/2020	**(Invited) Colloquium at the Institute of Astronomy, National Tsing Hua University (NTHU)**,	*Hsinchu, Taiwan*
06/2019	**(Invited) Colloquium at the Academia Sinica Institute of Astronomy and Astrophysics (ASIAA)**, Study spatially resolved stellar population properties of galaxies with spatially resolved SED fitting	*Taipei, Taiwan*
04/2018	**Colloquium at the Astronomical Institute, Tohoku University**, Spatially resolved stellar mass buildup and quenching in massive disk galaxies at 0<z<1	*Sendai, Japan*
05/2015	**Colloquium at the Astronomical Institute, Tohoku University**, Spatially resolved star formation rate density and stellar mass density of galaxies in the local universe	*Sendai, Japan*

Other Talks

01/2023	**Contributed talk at the 241st meeting of the American Astronomical Society (AAS)**, Spatially resolved stellar populations of galaxies at $0.3 < z < 6.0$: how do galaxies grow and quench over cosmic time?	*Seattle, WA, USA*
04/2022	**Flash talk for early-career researcher at a plenary session of the 2022 Euclid Consortium Meeting**, Spatially resolving stellar population properties of local galaxies with Euclid + Rubin data	*Virtual*
04/2022	**Contributed talk at a parallel session Legacy Science Local Universe in the 2022 Euclid Consortium Meeting**, Spatially resolving stellar population properties of local galaxies with Euclid + Rubin data	*Virtual*
02/2022	**Contributed talk at the Japan-Korea-Taiwan Joint Galaxy Evolution Workshop 2022**, Spatially resolved panchromatic SED fitting of nearby galaxies: resolved properties of stars, dust, and gas	*Virtual*
02/2021	**Contributed talk at the Japan-Korea-Taiwan Joint Galaxy Evolution Workshop 2020**, Spatially resolved spectrophotometric SED fitting of galaxies with `piXedfit`	*Virtual*

12/2019	**Contributed talk at the workshop on Galaxy formation and evolution across cosmic time**, Spatially resolving properties of galaxies across cosmic time with `piXedfit`	*Virtual*
11/2018	**Contributed talk at the IAU Symposium 341, PanModel2018: Challenges in panchromatic galaxy modelling with next generation facilities**, Spatially resolved stellar mass buildup and quenching in massive disk galaxies over the last 10 Gyr revealed with spatially resolved SED fitting	*Osaka, Japan*
06/2018	**Contributed talk at the Galaxy Evolution Workshop**, Spatially resolved stellar mass buildup and quenching in massive disk galaxies at 0<z<1	*Matsuyama, Japan*
11/2017	**Contributed talk at the workshop on Sharp views of galaxy formation and evolution, Japan-Germany workshop**, Evolution of the spatially resolved star formation main sequence of massive disk galaxies at 0<z<1	*Sendai, Japan*
06/2017	**(Invited) Talk at a virtual Galaxy workshop (Galshop): NAOJ, Subaru telescope, and Tohoku University**, Understanding the scatter in the spatially resolved star formation main sequence	*Sendai, Japan*
08/2016	**Contributed talk at the conference How galaxies form stars**, Spatially resolved star formation rate and stellar mass of local massive spiral galaxies: understanding the scatter in spatially resolved star formation main sequence	*Stockholm, Sweden*
06/2016	**Contributed talk at The 3rd galaxy evolution workshop**, Spatially-resolved star formation rate and stellar mass of galaxies in the local universe: quantifying the inside-out scenario of disk galaxies formation	*Sendai, Japan*

Poster Presentation

06/2024	**244th Meeting of the American Astronomical Society (AAS)**, JWST NIRSpec high-resolution and MIRI observations of MACS0647—JD at z=10.167: deep insights into the physical properties of an early galaxy	*Madison, WI, USA*
09/2020	**2020 Annual Meeting of the Astronomical Society of the Republic of China**, Spatially resolving properties of galaxies across cosmic time with `piXedfit`	*Taipei, Taiwan*
11/2019	**The art of measuring galaxy physical properties**, Spatially resolving properties of galaxies across cosmic time with `piXedfit`	*Milan, Italy*
11/2016	**Panoramas of the evolving cosmos, The 6th Subaru international conference**, Spatially resolved star-formation main sequence in the local massive spiral galaxies	*Hiroshima, Japan*
02/2015	**Science and Life Science Joint Symposium 2015 at the Tohoku University**, Spatially resolved star formation rate density and stellar mass density of massive galaxies in the local universe	*Sendai, Japan*

Public Outreach

04/2023	**Interviewed for 2023 Year in Review magazine of the Department of Physics and Astronomy, Johns Hopkins University**, Experience in observing high-redshift galaxies with JWST (link p. 7)	*Virtual*
04/2023	**(Invited) Talk at Universitas Padjadjaran, Indonesia**, Introduction to Astronomy and its application to the lunar and Gregorian calendar	*Virtual*
10/2022	**(Invited) Talk at a public outreach 100-hour Astronomy held by the National Research and Innovation Agency of Indonesia (BRIN) as part of the IAU Global Outreach Project**, The science missions of the Hubble and James Webb Space Telescopes. (recording)	*Virtual*
08/2022	**(Invited) Seminar talk at the Physics Department, Brawijaya University, Indonesia**, Pursuing Career in Academia as an Astrophysicist. (link)	*Virtual*
10/2021	**(Invited) Seminar talk at the Physics Department, Brawijaya University, Indonesia**, Astrostatistics and Big data for understanding the evolution of the universe. (recording)	*Virtual*

References

- **Dr. Dan Coe**, ESA-AURA Astronomer, Space Telescope Science Institute, USA (dcoe@stsci.edu)
- **Dr. Harry Ferguson**, Astronomer, Space Telescope Science Institute, USA (ferguson@stsci.edu)
- **Dr. Yen-Ting Lin**, Research Fellow, Academia Sinica Institute of Astronomy and Astrophysics, Taiwan (ytl@asiaa.sinica.edu.tw)
- **Prof. Masayuki Akiyama**, Professor, Astronomical Institute, Tohoku University, Japan (akiyama@astr.tohoku.ac.jp)

Publications

37 papers in total (28 refereed/published/in press, 9 submitted), >1500 citations, H-index=16 (as of October 2024)

Full list of my publications at ADS link

As 1st/2nd Author (>250 citations):

1. **JWST NIRSpec High-resolution Spectroscopy of MACS0647-JD at z = 10.167: Resolved [OII] Doublet and Electron Density in an Early Galaxy**, Abdurro'uf, Rebecca L. Larson, Dan Coe, Tiger Yu-Yang Hsiao, Javier Álvarez-Márquez, Alejandro Crespo Gómez, Angela Adamo, Rachana Bhatawdekar, Arjan Bik, Larry D. Bradley, Christopher J. Conselice, Pratika Dayal, Jose M. Diego, Seiji Fujimoto, Lukas J. Furtak, Taylor A. Hutchison, Intae Jung, Meghana Killi, Vasily Kokorev, Matilde Mingozzi, Colin Norman, Tom Resseguier, Massimo Ricotti, Jane R. Rigby, Eros Vanzella, Brian Welch, Rogier A. Windhorst, Xinfeng Xu, Adi Zitrin, 2024, ApJ, 973, 47. (ADS)

2. **JWST NIRSpec spectroscopy of the triply-lensed z=10.17 galaxy MACS0647−JD**, Tiger Yu-Yang Hsiao, Abdurro'uf, Dan Coe, Rebecca L. Larson, Intae Jung, Matilde Mingozzi, Pratika Dayal, Nimisha Kumari, Vasily Kokorev, Anton Vikaeus, Gabriel Brammer, Lukas J. Furtak, Angela Adamo, Felipe Andrade-Santos, Jacqueline Antwi-Danso, Marusa Bradac, Larry D. Bradley, Tom Broadhurst, Adam C. Carnall, Christopher J. Conselice, Jose M. Diego, Megan Donahue, Jan J. Eldridge, Seiji Fujimoto, Alaina Henry, Svea Hernandez, Taylor A. Hutchison, Bethan L. James, Colin Norman, Hyunbae Park, Norbert Pirzkal, Marc Postman, Massimo Ricotti, Jane R. Rigby, Eros Vanzella, Brian Welch, Stephen M. Wilkins, Rogier A. Windhorst, Xinfeng Xu, Erik Zackrisson, Adi Zitrin, 2023, ApJ, 973, 8. Note: both lead authors contributed equally. (ADS)

3. **Spatially Resolved Stellar Populations of 0.3<z<6.0 Galaxies in WHL0137-08 and MACS0647+70 Clusters as Revealed by JWST: How do Galaxies Grow and Quench Over Cosmic Time?**, Abdurro'uf, Dan Coe, Intae Jung, Henry C. Ferguson, Gabriel Brammer, Kartheik G. Iyer, Larry D. Bradley, Pratika Dayal, Rogier A. Windhorst, Adi Zitrin, Ashish Kumar Meena, Masamune Oguri, Jose M. Diego, Vasily Kokorev, Paola Dimauro, Angela Adamo, Christopher J. Conselice, Brian Welch, Eros Vanzella, Tiger Yu-Yang Hsiao, Xinfeng Xu, Namrata Roy, Celia R. Mulcahey, 2023, ApJ, 945, 117. (ADS)

4. **Compact Dust Emission in a Gravitationally Lensed Massive Quiescent Galaxy at z=2.15 Revealed in 130 pc Resolution Observations by the Atacama Large Millimeter/submillimeter Array**, Takahiro Morishita, Abdurro'uf, Hiroyuki Hirashita, Andrew B. Newman, Massimo Stiavelli, Marco Chiaberge, 2022, ApJ, 938, 144. (ADS)

5. **Dissecting Nearby Galaxies with `piXedfit`: II. Spatially Resolved Scaling Relations Among the Stars, Dust, and Gas**, Abdurro'uf, Yen-Ting Lin, Hiroyuki Hirashita, Takahiro Morishita, Sandro Tacchella, Po-Feng Wu, Masayuki Akiyama, Tsutomu T. Takeuchi, 2022, ApJ, 935, 98. (ADS)

6. **Dissecting Nearby Galaxies with `piXedfit`: I. Spatially Resolved Properties of Stars, Dust, and Gas as Revealed by Panchromatic SED Fitting**, Abdurro'uf, Yen-Ting Lin, Hiroyuki Hirashita, Takahiro Morishita, Sandro Tacchella, Masayuki Akiyama, Tsutomu T. Takeuchi, Po-Feng Wu, 2022, ApJ, 926, 81. (ADS)

7. **Introducing `piXedfit`: A Spectral Energy Distribution Fitting Code Designed for Resolved Sources**, Abdurro'uf, Yen-Ting Lin, Po-Feng Wu, and Masayuki Akiyama, 2021, ApJS, 254, 15. (ADS)

8. **Evolution of Spatially Resolved Star Formation Main Sequence and Surface Density Profiles in Massive Disc Galaxies at 0<z<1: Inside-out Stellar Mass Buildup and Quenching**, Abdurro'uf & Masayuki Akiyama, 2018, MNRAS, 479, 5083. (ADS)

9. **Understanding the Scatter in the Spatially Resolved Star Formation Main Sequence of Local Massive Spiral Galaxies**, Abdurro'uf & Masayuki Akiyama, 2017, MNRAS, 469, 2806. (ADS)

Paper in preparation (under internal review):

1. **Euclid Preparation. TBD. Spatially Resolving Stellar Populations of Local Galaxies with Euclid: A proof of Concept using Synthetic Images with the TNG50 Simulation**, Euclid Collaboration: Abdurro'uf, Crescenzo Tortora, Maarten Baes, et al.

As Contributing Author:

1. **On the dichotomy of elliptical galaxies**, Rog´erio Monteiro-Oliveira, Yen-Ting Lin, Wei-Huai Chen, Chen-Yu Chuang, Abdurro'uf, Po-Feng Wu, 2024, submitted to ApJ. (ADS)

2. **First direct carbon abundance measured at $z > 10$ in the lensed galaxy MACS0647−JD**, Tiger Yu-Yang Hsiao, Michael W. Topping, Dan Coe, John Chisholm, Danielle A. Berg, Abdurro'uf, Javier Álvarez-Márquez, Roberto Maiolino, Pratika Dayal, Lukas J. Furtak, 2024, submitted to ApJ. (ADS)

3. **Implication of a galaxy-scale negative feedback by one of the most powerful multi-phase outflows in a hyper-luminous infrared galaxy at the intermediate redshift**, Xiaoyang Chen, Masayuki Akiyama, Kohei Ichikawa, Yoshiki Toba, Toshihiro Kawaguchi, Takuma Izumi, Toshiki Saito, Daisuke Iono, Masatoshi Imanishi, Kianhong Lee, Hiroshi Nagai, Hirofumi Noda, Abdurro'uf, Mitsuru Kokubo, and Naoki Matsumoto, 2024, submitted to ApJ.

4. **Euclid preparation. Detecting globular clusters in the Euclid survey**, Euclid Collaboration: K. Voggel et al., (incl. Abdurro'uf), 2024, submitted to A&A. (ADS)

5. **Euclid: Early Release Observations – Overview of the Perseus cluster and analysis of its luminosity and stellar mass functions**, J.-C. Cuillandre et al., (incl. Abdurro'uf), 2024, submitted to A&A. (ADS)

6. **Euclid: Early Release Observations – Globular clusters in the Fornax galaxy cluster, from dwarf galaxies to the intracluster field**, T. Saifollahi et al., (incl. Abdurro'uf), 2024, submitted to A&A. (ADS)

7. **Euclid: Early Release Observations – Programme overview and pipeline for compact- and diffuse-emission photometry**, J.-C. Cuillandre et al., (incl. Abdurro'uf), 2024, submitted to A&A. (ADS)

8. **Euclid. I. Overview of the Euclid mission**, Euclid Collaboration: Y. Mellier et al., (incl. Abdurro'uf), 2024, submitted to A&A. (ADS)

9. **Unveiling the Cosmic Gems Arc at z$\sim$10.2 with JWST**, Larry D. Bradley, Angela Adamo, Eros Vanzella, Keren Sharon, Gabriel Brammer, Dan Coe, Jose M. Diego, Vasily Kokorev, Guillaume Mahler, Masamune Oguri, Abdurro'uf, Rachana Bhatawdekar, Lise Christensen, Seiji Fujimoto, Takuya Hashimoto, Tiger Y.-Y Hsiao, Akio K. Inoue, Yolanda Jiménez-Teja, Matteo Messa, Colin Norman, Massimo Ricotti, Yoichi Tamura, Rogier A. Windhorst, Xinfeng Xu, Adi Zitrin, 2024, submitted to ApJ. (ADS)

10. **JWST MIRI detections of Hα and [OIII] and direct metallicity measurement of the z=10.17 lensed galaxy MACS0647-JD**, Tiger Yu-Yang Hsiao, Javier Álvarez-Márquez, Dan Coe, Alejandro Crespo Gómez, Abdurro'uf, Pratika Dayal, Rebecca L. Larson, Arjan Bik, Carmen Blanco-Prieto, Luis Colina, Pablo Guillermo Pérez-González, Luca Costantin, Carlota Prieto-Jiménez, Angela Adamo, Larry D. Bradley, Christopher J. Conselice, Seiji Fujimoto, Lukas J. Furtak, Taylor A. Hutchison, Bethan L. James, Yolanda Jiménez-Teja, Intae Jung, Vasily Kokorev, Matilde Mingozzi, Colin Norman, Massimo Ricotti, Jane R. Rigby, Keren Sharon, Eros Vanzella, Brian Welch, Xinfeng Xu, Erik Zackrisson, Adi Zitrin, 2024, ApJ in press. (ADS)

11. **The JWST-PRIMAL Legacy Survey. A JWST/NIRSpec reference sample for the physical properties and Lyman-α absorption and emission of $\sim$500 galaxies at z=5.5−13.4**, K. E. Heintz, G. B. Brammer, D. Watson, P. A. Oesch, L. C. Keating, M. J. Hayes, Abdurro'uf, K. Z. Arellano-Córdova, A. C. Carnall, C. R. Christiansen, F. Cullen, R. Davé, P. Dayal, A. Ferrara, K. Finlator, J. P. U. Fynbo, S. R. Flury, V. Gelli, S. Gillman, R. Gottumukkala, K. Gould, T. R. Greve, S. E. Hardin, T. Y.-Y Hsiao, A. Hutter, P. Jakobsson, M. Killi, N. Khosravaninezhad, P. Laursen, M. M. Lee, G. E. Magdis, J. Matthee, R. P. Naidu, D. Narayanan, C. Pollock, M. Prescott, V. Rusakov, M. Shuntov, A. Sneppen, R. Smit, N. R. Tanvir, C. Terp, S. Toft, F. Valentino, A. P. Vijayan, J. R. Weaver, J. H. Wise, J. Witstok, 2024, A&A in press. (ADS)

12. **Bound star clusters observed in a lensed galaxy 460 Myr after the Big Bang**, Angela Adamo, Larry D. Bradley, Eros Vanzella, Adélaïde Claeyssens, Brian Welch, Jose M Diego, Guillaume Mahler, Masamune Oguri, Keren Sharon, Abdurro'uf, Tiger Yu-Yang Hsiao, Matteo Messa, Erik Zackrisson, Gabriel Brammer, Dan Coe, Vasily Kokorev, Massimo Ricotti, Adi Zitrin, Seiji Fujimoto, Akio K. Inoue, Tom Resseguier, Jane R. Rigby, Yolanda Jiménez-Teja, Rogier A. Windhorst, Xinfeng Xu, 2024, Nature, 632, 513. (ADS)

13. **The miniJPAS Survey: The Radial Distribution of Star Formation Rate in Faint X-ray AGN**, Nischal Acharya, Silvia Bonoli, Mara Salvato, Ariana Cortesi, Rosa M. González Delgado, Ivan Ezequiel Lopez, Isabel Marquez, Ginés Martínez-Solaeche, Abdurro'uf, David Alexander, Marcella Brusa, Jonás Chaves-Montero, Juan Antonio Fernández Ontiveros, Brivael Laloux, Andrea Lapi, George Mountrichas, Cristina Ramos Almeida, Julio Esteban Rodríguez Martín, Francesco Shankar, Roberto Soria, José M. Vilchez, Raul Abramo, Jailson Alcaniz, Narciso Benitez, Saulo Carneiro, Javier Cenarro, David Cristóbal-Hornillos, Renato Dupke, Alessandro Ederoclite, A. Hernán-Caballero, Carlos López-Sanjuan, Antonio Marín-Franch, Caludia Mendes de Oliveira, Mariano Moles, Laerte Sodré Jr., Keith Taylor, Jesús Varela, and Héctor Vázquez Ramió, 2024, A&A, 687, 285. (ADS)

14. **A closer look at the host-galaxy environment of high-velocity Type Ia supernova**, Han-Tang Lin, Yen-Chen Pan, Abdurro'uf, 2024, MNRAS, 531, 1988. (ADS)

15. **Strong damped Lyman-α absorption in young star-forming galaxies at redshifts 9 to 11**, Kasper E. Heintz, Darach Watson, Gabriel Brammer, Simone Vejlgaard, Anne Hutter, Victoria B. Strait, Jorryt Matthee, Pascal A. Oesch, Páll Jakobsson, Nial R. Tanvir, Peter Laursen, Rohan P. Naidu, Charlotte A. Mason, Meghana Killi, Intae Jung, Tiger Yu-Yang Hsiao, Abdurro'uf, Dan Coe, Pablo Arrabal Haro, Steven L. Finkelstein, Sune Toft, 2024, Science, 384, 890. (ADS)

16. **The TNG50-SKIRT Atlas: Wavelength dependence of the effective radius**, Maarten Baes, Aleksandr Mosenkov, Raymond Kelly, Abdurro'uf, Nick Andreadis, Sena Bokona Tulu, Peter Camps, Abdissa Tassama Emana, Jacopo Fritz, Andrea Gebek, Inja Kovačić, Antonio La Marca, Marco Martorano, Angelos Nersesian, Vicente Rodriguez-Gomez, Crescenzo Tortora, Ana Trčka, Bert Vander Meulen, Arjen van der Wel, and Lingyu Wang, 2024, A&A, 683, 182. (ADS)

17. **The TNG50-SKIRT Atlas: post-processing methodology and first data release**, Maarten Baes, Andrea Gebek, Ana Trčka, Peter Camps, Arjen van der Wel, Abdurro'uf, Nick Andreadis, Sena Bokona Tulu, Abdissa Tassama Emana, Jacopo Fritz, Raymond Kelly, Inja Kovačić, Antonio La Marca, Marco Martorano, Aleksandr Mosenkov, Angelos Nersesian, Vicente Rodriguez-Gomez, Crescenzo Tortora, Bert Vander Meulen, and Lingyu Wang, 2024, A&A, 683, 181. (ADS)

18. **To be, or not to be: Balmer breaks in high-z galaxies with JWST**, Anton Vikaeus, Erik Zackrisson, Stephen Wilkins, Armin Nabizadeh, Vasily Kokorev, Abdurro'uf, Larry D. Bradley, Dan Coe, Pratika Dayal, Massimo Ricotti, 2024, MNRAS, 529, 1299. (ADS)

19. **Reaching for the stars – JWST/NIRSpec spectroscopy of a lensed star candidate at $z = 4.76$**, Lukas J. Furtak, Ashish K. Meena, Erik Zackrisson, Adi Zitrin, Gabriel B. Brammer, Dan Coe, José M. Diego, Jan J. Eldridge, Yolanda Jiménez-Teja, Vasily Kokorev, Massimo Ricotti, Brian Welch, Rogier A. Windhorst, Abdurro'uf, Felipe Andrade-Santos, Rachana Bhatawdekar, Larry D. Bradley, Tom Broadhurst, Wenlei Chen, Christopher J. Conselice, Pratika Dayal, Brenda L. Frye, Seiji Fujimoto, Tiger Y.-Y. Hsiao, Patrick L. Kelly, Guillaume Mahler, Nir Mandelker, Colin Norman, Masamune Oguri, Norbert Pirzkal, Marc Postman, Swara Ravindranath, Eros Vanzella, and Stephen M. Wilkins, 2024, MNRAS, 527, L7. (ADS)

20. **JWST/NIRCam Probes Young Star Clusters in the Reionization Era Sunrise Arc**, E. Vanzella, A. Claeyssens, B. Welch, A. Adamo, D. Coe, J. M. Diego, G. Mahler, G. Khullar, V. Kokorev, M. Oguri, S. Ravindranath, L. J. Furtak, T. Yu-Yang Hsiao, Abdurro'uf, N. Mandelker, G. Brammer, L. D. Bradley, M. Bradac, C. J. Conselice, P. Dayal, M. Nonino, F. Andrade-Santos, R. A. Windhorst, N. Pirzkal, K. Sharon, S. E. de Mink, S. Fujimoto, A. Zitrin, J. J. Eldridge, C. Norman, 2023, ApJ, 945, 53. (ADS)

21. **Two lensed star candidates at z=4.8 behind the galaxy cluster MACS J0647.7+7015**, Ashish Kumar Meena, Adi Zitrin, Yolanda Jiménez-Teja, Erik Zackrisson, Wenlei Chen, Dan Coe, Jose M. Diego, Paola Dimauro, Lukas J. Furtak, Patrick L. Kelly, Masamune Oguri, Brian Welch, Abdurro'uf, Felipe Andrade-Santos, Angela Adamo, Rachana Bhatawdekar, Maruša Bradač, Larry D. Bradley, Pratika Dayal, Megan Donahue, Brenda L. Frye, Seiji Fujimoto, Tiger Yu-Yang Hsiao, Vasily Kokorev, Guillaume Mahler, Eros Vanzella, Rogier A. Windhorst, 2023, ApJL, 944, 6. (ADS)

22. **JWST reveals a possible z∼11 galaxy merger in triply-lensed MACS0647 − JD**, Tiger Yu-Yang Hsiao, Dan Coe, Abdurro'uf, Lily Whitler, Intae Jung, Gourav Khullar, Ashish Kumar Meena, Pratika Dayal, Kirk S. S. Barrow, Lillian Santos-Olmsted, Adam Casselman, Eros Vanzella, Mario Nonino, Yolanda Jimenez-Teja, Masamune Oguri, Daniel P. Stark, Lukas J. Furtak, Adi Zitrin, Angela Adamo, Gabriel Brammer, Larry Bradley, Jose M. Diego, Erik Zackrisson, Steven L. Finkelstein, Rogier A. Windhorst, Rachana Bhatawdekar, Taylor A. Hutchison, Tom Broadhurst, Paola Dimauro, Felipe Andrade-Santos, Jan J. Eldridge, Ana Acebron, Roberto J. Avila, Matthew B. Bayliss, Alex Benitez, Christian Binggeli, Patricia Bolan, Marusa Bradac, Adam C. Carnall, Christopher J. Conselice, Megan Donahue, Brenda Frye, Seiji Fujimoto, Alaina Henry, Bethan L. James, Susan Kassin, Lisa Kewley, Rebecca L. Larson, Tod Lauer, David Law, Guillaume Mahler, Ramesh Mainali, Stephan McCandliss, David Nicholls, Norbert Pirzkal, Marc Postman, Jane R. Rigby, Russell Ryan, Peter Senchyna, Keren Sharon, Ikko Shimizu, Victoria Strait, Mengtao Tang, Michele Trenti, Anton Vikaeus, Brian Welch, 2023, ApJL, 949, 34. (ADS)

23. **JWST Imaging of Earendel, the Extremely Magnified Star at Redshift z=6.2**,
Brian Welch, Dan Coe, Erik Zackrisson, S.E. de Mink, Swara Ravindranath, Jay Anderson, Gabriel Brammer, Larry Bradley, Jinmi Yoon, Patrick Kelly, Jose M. Diego, Rogier Windhorst, Adi Zitrin, Paola Dimauro, Yolanda Jimenez-Teja, Abdurro'uf, Mario Nonino, Ana Acebron, Felipe Andrade-Santos, Roberto J. Avila, Matthew B. Bayliss, Alex Benitez, Tom Broadhurst, Rachana Bhatawdekar, Marusa Bradac, Gabriel Caminha, Wenlei Chen, Jan Eldridge, Ebraheem Farag, Michael Florian, Brenda Frye, Seiji Fujimoto, Sebastian Gomez, Alaina Henry, Tiger Y.-Y Hsiao, Taylor A. Hutchison, Bethan L. James, Meridith Joyce, Intae Jung, Gourav Khullar, Rebecca L. Larson, Guillaume Mahler, Nir Mandelker, Stephan McCandliss, Takahiro Morishita, Rosa Newshore, Colin Norman, Kyle O'Connor, Pascal A. Oesch, Masamune Oguri, Masami Ouichi, Marc Postman, Jane R. Rigby, Russell E. Ryan Jr., Soniya Sharma, Keren Sharon, Victoria Strait, Louis-Gregory Strolger, F.X. Timmes, Sune Toft, Michele Trenti, Eros Vanzella, Anton Vikaeus, 2022, ApJL, 940, 1. (ADS)

24. **A Multiwavelength view of IC 860: What Is in Action inside Quenching Galaxies**, Yuanze Luo, Kate Rowlands, Katherine Alatalo, Elizaveta Sazonova, Abdurro'uf, Timothy Heckman, Anne M. Medling, Susana E. Deustua, Kristina Nyland, Lauranne Lanz, Andreea O. Petric, Justin A. Otter, Susanne Aalto, Sabrina Dimassimo, K. Decker French, John S. Gallagher III, Joel C. Roediger, Sofia Stepanoff, 2022, ApJ, 938, 63. (ADS)

25. **The Seventeenth Data Release of the Sloan Digital Sky Surveys: Complete Release of MaNGA, MaStar and APOGEE-2 Data**, Abdurro'uf et al., 2022, ApJS, 259, 35. (ADS)

26. **Extremely Low Molecular Gas Content in the Vicinity of a Red Nugget Galaxy at z=1.91**, T. Morishita, Q. D'Amato, L. E. Abramson, Abdurro'uf, M. Stiavelli, R. A. Lucas, 2021, ApJ, 908, 163. (ADS)

27. **Tracing the Coevolution Path of Supermassive Black Holes and Spheroids with AKARI-selected Ultraluminous IR Galaxies at Intermediate Redshifts**, Xiaoyang Chen, Masayuki Akiyama, Kohei Ichikawa, Hirofumi Noda, Yoshiki Toba, Issei Yamamura, Toshihiro Kawaguchi, Abdurro'uf, Mitsuru Kokubo, 2020, ApJ, 900, 51. (ADS)

28. **Discovery of a strong ionized-gas outflow in an AKARI-selected ultra-luminous infrared galaxy at z=0.5**, Xiaoyang Chen, Masayuki Akiyama, Hirofumi Noda, Abdurro'uf, Yoshiki Toba, Issei Yamamura, Toshihiro Kawaguchi, Mitsuru Kokubo, Kohei Ichikawa, PASJ, 71, 29. (ADS)

Selected Proceeding:

1. **Spatially Resolved stellar mass buildup and quenching in massive disk galaxies over the last 10 Gyr revealed with spatially resolved SED fitting**, Abdurro'uf & Masayuki Akiyama, 2020, Challenges in Panchromatic Modelling with Next Generation Facilities. Proceedings of the International Astronomical Union, 341, 55. (ADS)