

ABDURRAHMAN NAUFAL

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Tokyo, Japan – Indonesian

SUMMARY

I am a PhD student of the Graduate University for Advanced Studies, Japan, in the Astronomical Science Program, affiliated with the National Astronomical Observatory of Japan. My main research interest is the role of environment in the evolution of galaxies.

EDUCATION

- **The Graduate University for Advanced Studies** October 2020 - September 2025 (expected)
PhD in Astronomical Science
◦ Advisor: Dr. Yusei Koyama Tokyo, Japan
- **Bandung Institute of Technology** August 2015 - June 2019
BSc in Astronomy
◦ Grade: 3.5/4.0 Bandung, Indonesia
◦ Thesis: Using Gaia DR2 data to identify and analyze binary star cluster candidates in the Milky Way

EXPERIENCE

- **Teaching Assistant for Galactic Physics** 2019 January - June
Bandung Institute of Technology Bandung, Indonesia
- **Teaching Assistant for Computational Astronomy** 2018 January - June
Bandung Institute of Technology Bandung, Indonesia

PUBLICATIONS

- [1] Naufal, A., Koyama, Y., D'Eugenio, C., Dannerbauer, H., Shimakawa, R., Pérez-Martínez, J.M., Kodama, T., Zhang, Y., and Daikuhara, K. (2024). **Revealing the quiescent galaxy population in the Spiderweb protocluster at $z=2.16$ with deep HST/WFC3 slitless spectroscopy.** *The Astrophysical Journal*, in press.
- [2] Shimakawa, R., Koyama, Y., Kodama, T., Dannerbauer, H., Pérez-Martínez, J.M., Röttgering, H.J.A., Tanaka, I., D'Eugenio, C., Naufal, A., Daikuhara, K., and Zhang, Y. (2024). **Spider-Webb: JWST Near Infrared Camera resolved galaxy star formation and nuclear activities in the Spiderweb protocluster at $z=2.16$.** *Monthly Notices of the Royal Astronomical Society Letters*, in press.
- [3] Zhang, Y.H., Dannerbauer, H., Pérez-Martínez, J. M., Koyama, Y., Zheng, X. Z., D'Eugenio, C., Emonts, B. H. C., Calvi, R., Chen, Z., Daikuhara, K., De Breuck, C., Jin, S., Kodama, T., Lehnert, M. D., Naufal, A., and Shimakawa, R. (2024). **ASW²DF: Census of the obscured star formation in a galaxy cluster in formation at $z=2.2$.** *Astronomy & Astrophysics*, in press.
- [4] Pérez-Martínez, J.M., Dannerbauer, H., Koyama, Y., Pérez-González, P.G., Shimakawa, R., Kodama, T., Zhang, Y., Daikuhara, K., D'Eugenio, C., and Naufal, A. (2024). **JWST/NIRCam $\text{Pa}\beta$ narrow-band imaging reveals ordinary dust extinction for $\text{H}\alpha$ emitters within the Spiderweb protocluster at $z=2.16$.** *The Astrophysical Journal*, in press.
- [5] Shimakawa, R., Pérez-Martínez, J.M., Dannerbauer, H., Koyama, Y., Kodama, T., Pérez-González, P.G., D'Eugenio, C., Zhang, Y., Naufal, A., and Daikuhara, K. (2024). **JWST/NIRCam Narrowband Survey of $\text{Pa}\beta$ Emitters in the Spiderweb Protocluster at $z=2.16$.** *The Astrophysical Journal*, in press.
- [6] Naufal, A., Koyama, Y., Kodama, T., and Shimakawa, R. (2023). **Environmental Impacts on the Rest-frame UV Size and Morphology of Star-forming Galaxies at $z \sim 2$.** *The Astrophysical Journal*, Vol. 958, Issue 2, pp. 170-186. DOI: 10.3847/1538-4357/acfb81
- [7] Naufal, A., Arifyanto, M.I., and Aprilia (2020). **Analysis of binary star cluster candidates with Gaia DR2.** *Journal of Physics: Conference Series*, Volume 1523, International Symposium on Space Science 2019, 25 September 2019, Bandung, Indonesia.

SKILLS

- **General:** Python, Git, HTML
- **Photometry and PSF:** Source Extractor, Photutils, SEP
- **Galaxy morphology:** GALFIT, GALFITM, Statmorph, Petrofit
- **Spectroscopy and SED:** Grizli, EAZY, BAGPIPES, Cigale, piXedfit

PRESENTATIONS & POSTERS

- **First Structures in the Universe**
"New members of the Spiderweb protocluster revealed by HST grism observation"
2024 July
Paris, France
- **Extreme Galaxies in Extreme Environment at Extreme Epochs**
"Searching for quiescent galaxies in the Spiderweb protocluster"
2024 April
Reykjavik, Iceland
- **9th Galaxy Evolution Workshop**
"Environmental Effects on the Morphology of Star-Forming Galaxies at $z \sim 2$ "
2023 February
Kyoto, Japan
- **IAU Symposium 377**
"Environmental Effects on the Morphology of Star-Forming Galaxies at $z \sim 2$ "
2023 February
Kuala Lumpur, Malaysia
- **International Symposium on Space Science**
"Analysis of binary star cluster candidates with Gaia DR2"
2019 September
Bandung, Indonesia

VOLUNTEERING AND OUTREACH

- **Astronomy student association of Bandung Institute of Technology**
Staff of research and outreach divisions
2016 - 2019
Bandung, Indonesia
 - Organized various internal events.
 - Organized public observation events in Bandung, Indonesia.
- **Galaxy Day 2019**
Committee
2019 January
Bandung, Indonesia
 - Devised workshop materials and activities for high school students and teachers.
- **Astara Ganesha 2017**
Committee of the astronomy olympiad division
2017 September
Bandung, Indonesia
 - Organized an astronomy competition for high school students in West Java, Indonesia.
 - Devised exam problems for the competition.

ADDITIONAL INFORMATION

Languages: Indonesian (native), English (IELTS Academic 7.5), Japanese (N4)