Niankun Yu

Curriculum Vitae

National Astronomical Observatories
Chinese Academy of Sciences, 20 A Datun Road
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Education

2022– **Post-doc, Astrophysics**, *NAOC-ISM*, Beijing, China
Collaborators: Chao-Wei Tsai
2016–2022 **Ph.D., Astrophysics**, *Peking University*, Beijing, China
Advisor: Luis C. Ho, Jing Wang
2012–2016 **Bachelor, Physics**, *Huazhong University of Science and Technology*, Wuhan, China
Advisor: Qingwen Wu

Selected Honors

2022 Outstanding graduate
2020 **National Scholarship**
2019 – 2020 Merit Student
2016 Outstanding graduate

Skills

- Experienced in `Python` programming and statistical analysis
- Expertized in FAST data process & single-dish and interferometric data combination
- Familiar with optical IFU image data

Research & Interests

- Galaxy formation and evolution: the baryon cycle and star formation
- Multi-phase interstellar medium, circumgalactic medium: CO, H I, and ionized gas
- Gas dynamics and kinematics

Approved Proposals (selected)

2023 **VLA (24A-407, PI)**, *Cold Gas Conversion and Ionization States in Galaxy Mergers*, Rank: C, 41 hrs.
2022 **FAST (PT2022_0147, PI)**, *The Possible Existence and Formation of the Polar Ring in NGC 2685*, Rank: A, 11 hrs.
2019 **FAST Shared-risk (2019a-047-S, PI)**, *The Tully-Fisher Relation of Polar Ring Galaxies*, Rank: A
2019 **FAST Shared-risk (2019a-017-S, Co-I.)**, *H I Profiles as a Tool to Probe the Evolutionary Stages of Galaxy Mergers*, PI: Luis C. Ho

Observing Experience

2019–2023 **FAST**, *Pingtang*, Guizhou, China

Teaching Experience

2019 Teaching assistant of graduate course "galactic astronomy"

2017 Science camp counsellor

Conferences

2023 **Gas Fueling and Kinematics of Nearby Galaxies**, *Resolving Galaxy Ecosystems Across All Scales*, Hong Kong, China, Talk

2023 **The Roles of Atomic Gas in Galaxy Star Formation and Kinematics**, *ACAMAR: Gas in Galaxies*, Perth, Australia, Talk

2021 **Centrally Concentrated or Asymmetric H i Distribution Enhances the Star Formation in Galaxies**, *ACAMAR*, Online, Poster

Fundings

2023 **Postdoctoral Innovative Talent Support Program**, *Cold gas regulation and dynamics in galaxies*, GZB20230766

2022 **Postdoctoral fellowship**, *Mechanism of formation and evolution of polar ring galaxies*, 2022M723175

Publications

First Authored Papers

2024 **Yu, N.**, Zheng, Z, Tsai, C.-W., Zuo, P., Ellison, and et al., "The ALMaQUEST Survey XV: The Dependence of the Molecular-to-Atomic Gas Ratios on Resolved Optical Diagnostics", 2024, accepted by SCPMA (IF=6.4), arXiv: 2403.19447

2022 **Yu, N.**, Ho, L. C., & Wang, J., "Centrally Concentrated H I Distribution Enhances Star Formation in Galaxies", 2022, ApJ, 930, 85

2022 **Yu, N.**, Ho, L. C., Wang, J., & Li, H., "Statistical Analysis of H I Profile Asymmetry and Shape for Nearby Galaxies," 2022, ApJS, 261, 21

2020 **Yu, N.**, Ho, L. C., & Wang, J., " On the Determination of Rotation Velocity and Dynamical Mass of Galaxies Based on Integrated H I Spectra," 2020, ApJ, 898, 102

Additional Papers

2022 Zuo, P., Ho, L. C., Wang, J., **Yu, N.**, & Shangguan, J., "Massive Galaxy Mergers Have Distinctive Global H I Profiles", 2022, ApJ, 929, 15

2023 Deg, N., Palleske, R., Spekkens, K., Wang, J., ..., & **Yu, N.** "WALLABY pilot survey: the potential polar ring galaxies NGC 4632 and NGC 6156, 2023, MNRAS, 525, 4663

Ongoing projects

2024 **Yu N.**, Tsai C.-W., Ho, L. C., Zheng Z, and et al., "The Gas Accretion in the Polar Ring Galaxy NGC 2685", 2024, to be submitted.

2024 Zheng, H., **Yu N.**, Tsai C.-W., Ho, L. C., and et al., "The Tully-Fisher Relation of Polar Ring Galaxies", 2024, in prep.

2024 C. Murugeshan, N. Deg, ..., & **Yu, N.** "WALLABY Pilot Survey: Public data release of $\sim$ 1800 H I sources and high-resolution cut-outs from Pilot Survey Phase 2", 2024, to be submitted.

2024 Zheng, Y., Li, D., ..., & **Yu, N.** "The data release of the CRAFTS survey in the Boötes-Canes Venatici region", 2024, to be submitted.