

# Yaoting Yan (闫耀庭)

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Date of Birth	26 DECEMBER 1993
Gender	MALE
Supervisor 1	Dr. Christian Henkel
Research	Molecular Spectroscopy, Star Formation, Active Galactic Nuclei, Physical Constants.
Supervisor 2	Prof. Dr. Karl M. Menten
Research	Millimeter & Submillimeter Astronomy, (Sub)Millimeter Wavelength Studies of Asteroids and Comets, Molecular Clouds and Star Formation, Late Stages of Stellar Evolution, Astro-Chemistry, the Galactic Center and its Neighborhood, Dust and Molecules in External Galaxies, the Distant Universe and Cosmology, (Sub)Millimeter Wavelength Instrumentation.
Education	<b>Ph.D.</b> in Astronomy & Astrophysics, <a href="#">Max-Planck-Institut für Radioastronomie</a> , Bonn, Germany, 2019 - now <b>M.S.</b> in Astronomy, Center for Astronomy, <a href="#">Guangzhou University</a> , China, 2016 - 2019 <b>B.S.</b> in Optical Information Science and Technology, School of Physics and Electronic Engineering, <a href="#">Guangzhou University</a> , China, 2012-2016

## PUBLICATIONS

### 2022

#### [Discovery of ammonia \(9,6\) masers in two high-mass star-forming regions](#)

[Yan, Y. T.](#); Henkel, C.; Menten, K. M.; Gong, Y.; Ott, J.; Wilson, T. L.; Wootten, A.; Brunthaler, A.; Zhang, J. S.; Chen, J. L.; Yang, K.; 2022, *A&A*, 659, A5

### 2021

#### [Interstellar Nitrogen Isotope Ratios: New \$\text{NH}\_3\$ Data from the Galactic Center out to the Perseus Arm](#)

Chen, J. L.; Zhang, J. S.; Henkel, C.; [Yan, Y. T.](#); Yu, H. Z.; Qiu, J. J.; Tang, X. D.; Wang, J.; Liu, W.; Wang, Y. X.; Zheng, Y. H.; Zhao, J.; 2021, *ApJS*, 257, 39

#### [ALCHEMI: an ALMA Comprehensive High-resolution Extragalactic Molecular Inventory. Survey presentation and first results from the ACA array](#)

Martín, S.; Mangum, J. G.; Harada, N.; Costagliola, F.; Sakamoto, K.; Muller, S.; Aladro, R.; Tanaka, K.; Yoshimura, Y.; Nakanishi, K.; Herrero-Illana, R.; Mühle, S.; Aalto,

S.; Behrens, E.; Colzi, L.; Emig, K. L.; Fuller, G. A.; Garc'a-Burillo, S.; Greve, T. R.; Henkel, C.; Holdship, J.; Humire, P.; Hunt, L.; Izumi, T.; Kohno, K.; K'nig, S.; Meier, D. S.; Nakajima, T.; Nishimura, Y.; Padovani, M.; Rivilla, V. M.; Takano, S.; van der Werf, P. P.; Viti, S.; **Yan, Y. T.**; 2021, A&A, 656, A46

#### Studying infall in infrared dark clouds with multiple HCO<sup>+</sup> transitions

Xie, Jin-Jin; Wu, Jing-Wen; Fuller, Gary A.; Peretto, Nicolas; Ren, Zhi-Yuan; Chen, Long-Fei; **Yan, Yao-Ting**; Li, Guo-Dong; Duan, Yan; Xia, Ji-Feng; Wang, Yong-Xiong; Li, Di.; 2021, RAA, 21, 208

#### 2020

#### Galactic Interstellar Sulfur Isotopes: A Radial <sup>32</sup>S/<sup>34</sup>S Gradient?

Yu, H. Z.; Zhang, J. S.; Henkel, C.; **Yan, Y. T.**; Liu, W.; Tang, X. D.; Langer, N.; Luan, T. C.; Chen, J. L.; Wang, Y. X.; Deng, G. G.; Zou, Y. P.; 2020, ApJ, 899, 145

#### A Systematic Observational Study on Galactic Interstellar Ratio <sup>18</sup>O/<sup>17</sup>O. I. C<sup>18</sup>O and C<sup>17</sup>O J = 1-0 Data Analysis

Zhang, J. S.; Liu, W.; **Yan, Y. T.**; Yu, H. Z.; Liu, J. T.; Zheng, Y. H.; Romano, D.; Zhang, Z. -Y.; Wang, J. Z.; Chen, J. L.; Wang, Y. X.; Zhang, W. J.; Lu, H. H.; Chen, L. S.; Zou, Y. P.; Yang, H. Q.; Wen, T.; Lu, F. S.; 2020, ApJS, 249, 6

#### Systematic observations on Galactic Interstellar isotope ratios

Zhang, J. S.; **Yan, Y. T.**; Liu, W.; Yu, H. Z.; Chen, J. L.; Henkel, C.; 2020, IAUGA, 30, 278

#### 2019

#### A Systematic TMRT Observational Study of Galactic <sup>12</sup>C/<sup>13</sup>C Ratios from Formaldehyde

**Yan, Y. T.**; Zhang, J. S.; Henkel, C.; Mufakharov, T.; Jia, L. W.; Tang, X. D.; Wu, Y. J.; Li, J.; Zeng, Z. A.; Wang, Y. X.; Li, Y. Q.; Huang, J.; Jian, J. M.; 2019, ApJ, 877, 154

#### Academic Honors

2019-2022 A 3 years scholarship for Ph.D. studies from China Scholarship Council (CSC)  
 2019 Excellent Graduate Student  
 2018 Annual College scholarship  
 2017 Annual College scholarship  
 2016 Annual Graduate student Entrance scholarship  
 2015 The 13th Challenge Cup of Guangdong Undergrade Students Extracurricular Academic Science and Technology Competition Second Prize  
 2014 The 14th Guangzhou University Challenge Cup Competition First Prize  
 2014 Annual College scholarship  
 2014 Outstanding Student Leader  
 2013 Annual College scholarship  
 2013 Outstanding Student Leader

#### Accepted Observation Proposals as PI

(1626.5 hours)

## The 100-m Effelsberg Radio Telescope

1. *Monitoring ammonia maser emissions in the Milky Way*  
35.0 Hours (ID: 30-22) 2022
2. *A global survey on K-band in high-mass star-forming regions*  
70.0 Hours (ID: 34-22) 2022
3. *Silicon isotope ratios in the Milky Way*  
38.0 Hours (ID: 91-20) 2020
4. *Confirmation of new ammonia masers in three star-forming regions*  
5.0 Hours (ID: 13-20) 2020

## The Karl G. Jansky Very Large Array

1. *Widespread Ammonia Masers in Sgr B2*  
1.5 Hours (ID: VLA/22A-106) 2022
2. *Imaging the Newly Discovered Ammonia (9,6) Masers*  
1.0 Hours (ID: VLA/21A-157) 2020

## The IRAM 30m Telescope

1. *Silicon isotope ratios in the Milky Way*  
56.0 Hours (ID: 031-21) 2021
2. *Sulfur chemistry and isotopic ratios in the Milky Way*  
48.0 Hours (ID: 033-21) 2021
3. *Measurements of the gradients of isotope ratios  $^{12}\text{C}/^{13}\text{C}$  and  $^{14}\text{N}/^{15}\text{N}$  in our Galaxy from CN*  
74.0 Hours (ID: 004-20, 125-20) 2020
4. *3mm spectroscopic mapping toward W49A*  
66.0 Hours (ID: 117-20, 047-21) 2020, 2021

## The ARO 12 Meter Telescope

1. *Isotope ratio  $^{12}\text{C}/^{13}\text{C}$  in Galactic molecular clouds*  
298.0 Hours 2018B, 2019A
2. *Isotope ratio  $^{18}\text{O}/^{17}\text{O}$  in Galactic molecular clouds*  
172.0 Hours 2016B, 2017B  
Zhang et al. ApJS, 2020, 249(1): 6.  
Yu et al. ApJ, 2020, 899(2): 145.

## The James Clerk Maxwell Telescope

1. *Isotope ratio  $^{18}\text{O}/^{17}\text{O}$  in Galactic molecular clouds*  
165.0 Hours (ID: M16BP037, M16XP019, M19AP021) 2016B, 2016X, 2019A

## The Shanghai Tianma 65m Radio Telescope

1. *Isotope ratio  $^{12}\text{C}/^{13}\text{C}$  in Galactic molecular clouds*  
400 Hours. 2016-2019  
Yan et al. *ApJ*, 2019, 877(2): 154.

## The Sub-Millimeter Radio Telescope

1. *Oxygen isotope ratio of  $^{18}\text{O}/^{17}\text{O}$  in molecular clouds with different Galactocentric distance*  
197.0 Hours 2016A, 2017B

### Presentations

- Direct measurements of carbon and sulfur isotope ratios in the Milky Way.*  
-50th YERAC (poster) August, 2021
- C, N, O, S isotope ratios in the Milky Way.*  
-8th IMPRS conference, Bonn, Germany July, 2021
- Carbon and Sulfur isotope ratios in our Galaxy and NGC 253.*  
-MPIfR group meeting, Bonn, Germany July, 2020
- A Systematic TMRT Observational Study of Galactic  $^{12}\text{C}/^{13}\text{C}$  Ratios from Formaldehyde.*  
-2019 Symposium on Molecular Cloud and Star Formation, Xinjiang, China July, 2019
- Formaldehyde observations with TMRT.*  
-11th Jing-Guang-Xia Astrophysics Meeting, Guangzhou, China Nov., 2017

### Experience

- Observation experience > 2000.0 hours (on-site + remote)** 2016 - 2021
- 10th IRAM 30-meter School on Millimeter Astronomy  
– November 15-19, 22 and 23 2021
- Two weeks IRAM EMIR Pool observations  
– April 06 - April 13, May 25 - June 01 2021
- The scientific writing workshop (online), Bonn, Germany June 8-June 11, 2020
- 2018 FAST Radio Astronomy Summer School July 8-July 13, 2018
- 2017 Radio Astronomy Summer School at Shanghai Astronomical Observatory July 9-July 14, 2017
- 2016 Annual Meeting of the Chinese Astronomical Society Nov. 1-Nov. 3 2016
- James Clerk Maxwell Telescope (JCMT) Data Reductions and Analysis Workshop at Shanghai Astronomical Observatory Oct. 16, 2016
- 2015 Radio Astronomy Summer School at Shanghai Astronomical Observatory July 19-July 25, 2015