Bin Jia

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EDUCATION

Universiteit Leiden 2020 - present

M.S. in Astronomy

- First project: The effect of dust trapping on the depletion of CO in warm disks
  Supervisor: Dr. N. van der Marel & Daily supervisor: Ph.D. candidate Milou Temmink
- Second project: Tracing HNCO as a shock tracer in NGC1068
  Supervisor: Prof.dr. S. Viti & Daily supervisor: PostDoc Dr. K.Y. Huang
  Paper in preparation

University of Colorado Boulder 2017 - 2020

B.S. in Physics Advisor: Prof.dr. D.Nesbitt

- Field of study: Molecular Biophysics
- Second author in a published paper

RESEARCH EXPERIENCE

Universiteit Leiden 2020 - present

Master Researcher

- The effect of dust trapping on the depletion of CO in warm disks
  - Processing the raw cube data(lines and continuum) from ALMA Archive using **CASA**.
  - Constructing radiative models for multiple protoplanetary disks utilizing **RADMC-3D**, and fitting modeled SEDs with SimBad data.
  - Reconstructing midplane temperatures to better constrain CO snowline location
  - Investigating a possible correlation between dust traps and CO depletion.
- Tracing HNCO as a shock tracer in NGC1068
  - Utilizing non-LTE (**RADEX**) modeling and Bayesian inference (**UltraNest**) to constrain gas properties from HNCO emission in starburst rings of NGC1068.
  - Employing **UCLCHEM** to model the evolution of molecular gas and establish a linkage between **RADEX** and **UCLCHEM** models.

University of Colorado Boulder 2017-2020

Undergraduate Researcher

- Measuring Excess Heat Capacities of Deoxyribonucleic Acid (DNA) Folding at the Single-Molecule Level

SKILLS

Programming	Python, Fortran, html5, C++, LaTeX
General Softwares	Mathematica, UltraNest,MCMC
Astronomical Softwares	RADMC-3D, RADEX, GoFish, UCLCHEM, MESA, CASA
Languages	Chinese, English

PUBLICATIONS

2021 David A. Nicholson,**Bin Jia**, and David J. Nesbitt (2021). *Measuring Excess Heat Capacities of Deoxyribonucleic Acid (DNA) Folding at the Single-Molecule Level*, The Journal of Physical Chemistry B,2021, 125, 34, 9719–9726, doi: 10.1021/acs.jpcb.1c05555.