

JINSHI SAI (INSA CHOI)

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EMPLOYMENT & SALARY HISTORY

Postdoc Fellow <i>Academia Sinica Institute of Astronomy and Astrophysics (ASIAA)</i>	<i>Dec. 2021 - present</i>
Visiting PhD Student <i>Academia Sinica Institute of Astronomy and Astrophysics (ASIAA)</i>	<i>Dec. 2019 - Nov. 2021</i>
Subaru Sr. Research Intern <i>Research Corporation of the University of Hawaii</i>	<i>Dec. 2018 - Dec. 2019</i>

EDUCATION

PhD, Astronomy <i>Graduate School of Science, The University of Tokyo</i> <i>"Probing Gas Kinematics around Protostars with Multi-scale Observations"</i> <i>Supervisor: Dr. Nagayoshi Ohashi</i>	<i>Apr. 2018 - Nov. 2021</i>
MS, Astronomy <i>Graduate School of Science, The University of Tokyo</i>	<i>Apr. 2016 - Mar. 2018</i>
BS, Earth & Planetary Science <i>Kobe University</i>	<i>Apr. 2012 - Mar. 2016</i>

EXPERTISE & SKILLS

Field:	Star and disk formation, planet formation, (sub)millimeter astronomy
Observing Experience:	IRAM-30m telescope (on-site), Nobeyama-45m telescope (remote)
Data Reduction:	(Sub)millimeter interferometers (ALMA, ACA, SMA), single dish telescopes (IRAM-30m, JCMT, APEX)
Software for Astronomy:	CASA, MIRIAD, GILDAS, RADMC-3D
Software:	LaTeX, Microsoft Office, Inkscape
Programming:	Python, Fortran
Languages:	Japanese (native), English (fluent)

CONFERENCES & SEMINARS

(Talks)

East Asia ALMA Science Workshop 2023 , New Taipei City, Taiwan <i>The eDisk First-look Results of Ced110 IRS4: a Possible Substructure in an Embedded Disk</i>	<i>Feb. 2023</i>
A Half Century of Millimeter and Submillimeter Astronomy , Okinawa, Japan <i>First Results from the eDisk Survey: a Marginal Substructure in an Embedded Disk around Ced110 IRS4</i>	<i>Dec. 2022</i>
ASROC Annual Meeting , Jiayi, Taiwan <i>First Results from the eDisk Survey: Shallow Substructures in an Embedded Disk around Ced110 IRS4</i>	<i>Oct. 2022</i>
Star Formation in Different Environments 2022 , Quy Nhon, Vietnam <i>Probing Infalling Regions around Low-mass Protostars with Multiscale Observations</i>	<i>Aug. 2022</i>
ASIAA Colloquium , Taipei, Taiwan <i>Characterizing Gas Kinematics around Protostars over a Wide Spatial Range from Cores to Disks</i>	<i>Jun. 2022</i>
National Central University Colloquium , Taoyuan, Taiwan <i>Gas kinematics around protostars over a wide spatial range from a disk to a core</i>	<i>Mar. 2022 (invited)</i>

East Asia ALMA Science Workshop 2022 , Virtual <i>The Gas kinematics of the Protostellar Envelopes/Cores Probed with Multiscale Observations</i>	Jan. 2022
East Asia ALMA Science Workshop 2021 , Virtual <i>Which Part of Dense Cores Does Feed Materials to Protostars?: the Case of L1489 IRS</i>	Feb. 2021
ALMA Workshop 2019: Early Planet Formation in Embedded Disks , Tokyo, Japan <i>Warped Disk Structure around the Class I Protostar L1489 IRS Revealed by ALMA</i>	Dec. 2019
2019 JCMT Users Meeting , Taipei, Taiwan <i>Transition from a Quiescent Core to a Dynamical Envelope around the Protostar L1489 IRS</i>	Nov. 2019
Subaru 20th Anniversary , Waikoloa, Hawaii, USA <i>ALMA Observations of the Late-Phase Protostar L1489 IRS: Warped or Misaligned Disk Structure</i>	Nov. 2019
East Asia ALMA Science Workshop 2017 , Daejeon, Korea <i>ALMA Cycle 2 Observations of the Class I Protostar L1489 IRS: Misaligned Disk Structure</i>	Nov. 2017
(Posters)	
Protostar and Planets VII , Kyoto, Japan <i>Early Planet Formation in Embedded Disks (eDisk): Possible Substructure Formation in an Embedded Disk of the Ced110 IRS4 System</i>	Apr. 2023
RAS Early Career Poster Exhibition 2020 , Virtual <i>A Kinematical Transition from an Infalling Envelope to a Core around the Protostar L1489 IRS</i>	Sep. 2020
East Asia ALMA Science Workshop 2019 , Taipei, Taiwan <i>Kinematical transition from an infalling envelope to a quiescent core around the protostar L1489 IRS</i>	Feb. 2020

SUCCESSFUL PI PROPOSALS

Atacama Large Millimeter/submillimeter Array (ALMA) <i>The Spatial Scale of the Infalling Envelope at the Late Protostellar Phase</i>	2022
- 2.1 hours for 12-m array (16.4 h for 7-m, 40.3 h for TP), Grade C, Cycle 9	
<i>The Kinematical Transition between the Envelope and Core around Young Embedded Protostars</i>	2019
- 16.6 hours for ACA 7-m array, Grade B, Cycle 7	
IRAM-30 m Telescope <i>Kinematical Transition from Cores to Envelopes around Evolved Protostars</i>	2019 winter
- 36 hours, Grade A	
<i>Kinematical Transition from a Core to an Envelope</i>	2018 winter
- 21 hours, Grade A	
James Clerk Maxwell Telescope (JCMT) <i>Impact of Dense Core Properties on Disk Size (continued from 2022 winter)</i>	2023 summer
- 38 hours, Grade A	
<i>Impact of Dense Core Properties on Disk Size</i>	2022 winter
- 34 hours, Grade A	
<i>Magnetic field, turbulence and velocity gradients in dense cores of single protostars hosting multiple outflows</i>	
- 4 hours, Grade B	2022 summer
Submillimeter Array (SMA) <i>Probing nature of possible secondary outflows around single protostars in Perseus</i>	2022 summer
- 32 hours (4 tracks), Grade B	
Subaru Telescope <i>Morphologies and Structures of Embedded Disks I: Pilot Observations</i>	2023 summer
- 4 hours (service program), Grade B	

RESEARCH GRANTS

Grant from the Hayakawa Satio Fund, Astronomical Society of Japan	Sep. 2019
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OUTREACH

Ask Astronomer—Academia Sinica Open House, Taipei, Taiwan

Oct. 2022

Catching Radio from Space—Astronomy on Tap Taipei, Taipei, Taiwan

Dec. 2022

PUBLICATIONS

First Author, Refereed

4. *Early Planet Formation in Embedded Disks (eDisk) V: Possible Annular Substructure in a Circumstellar Disk in the Ced110 IRS4 System*
J. Sai, H.-W. Yen, N. Ohashi, et al., the Astrophysical Journal, in press, 2023
3. *Probing Velocity Structures of Protostellar Envelopes: Infalling and Rotating Envelopes within Turbulent Dense Cores*
J. Sai, N. Ohashi, H.-W. Yen, et al., the Astrophysical Journal, 944, 24, 2023
2. *Which Part of Dense Cores Feeds Material to Protostars?: The Case of L1489 IRS*
J. Sai, N. Ohashi, A.J. Maury, et al., the Astrophysical Journal, 925, 12, 2022
1. *Disk Structure around the Class I Protostar L1489 IRS Revealed by ALMA: A Warped- disk System*
J. Sai, N. Ohashi, K. Saigo, et al., the Astrophysical Journal, 893, 51, 2020

Co Author, Refereed

9. *Anisotropic Ionizing Illumination from an M-type Pre-main Sequence Star, DM Tau*
Y. Terada, H. B. Liu, D. Mkrtichian, et al. (**J. Sai, 4th**), the Astrophysical Journal, in press, 2023
8. *Early Planet Formation in Embedded Disks (eDisk). VII. Keplerian Disk, Disk Substructure, and Accretion Streamers in the Class 0 Protostar IRAS 16544-1604 in CB 68*
M. Kido, S. Takakuwa, K. Saigo, et al. (**J. Sai, 27th**), the Astrophysical Journal, in press, 2023
7. *Early Planet Formation in Embedded Disks (eDisk). IV. The Ringed and Warped Structure of the Disk around the Class I Protostar L1489 IRS*
Y. Yamato, Y. Aikawa, N. Ohashi, et al. (**J. Sai, 8th**), the Astrophysical Journal, 951, 20, 2023
6. *Early Planet Formation in Embedded Disks (eDisk). III. A First High-resolution View of Submillimeter Continuum and Molecular Line Emission toward the Class 0 Protostar L1527 IRS*
M. L. R. van't Hoff, J. J. Tobin, Z.-Y. Li, et al. (**J. Sai, 19th**), the Astrophysical Journal, 951, 29, 2023
5. *Early Planet Formation in Embedded Disks (eDisk). II. Limited Dust Settling and Prominent Snow Surfaces in the Edge-on Class I Disk IRAS 04302+2247*
Z.-Y. D. Lin, Z.-Y. Li, J. J. Tobin, et al. (**J. Sai, 23th**), the Astrophysical Journal, 951, 26, 2023
4. *Early Planet Formation in Embedded Disks (eDisk). I. Overview of the Program and First Results*
N. Ohashi, J. J. Tobin, J. K. Jørgensen, et al. (**J. Sai, 12th**), the Astrophysical Journal, 951, 26, 2023
3. *Increasing Mass-to-flux Ratio from the Dense Core to the Protostellar Envelope around the Class 0 Protostar HH 211*
H.-W. Yen, P. M. Koch, C.-F. Lee, et al. (**J. Sai, 6th**), the Astrophysical Journal, 942, 20, 2023
2. *No Evidence of the Significant Grain Growth but Tentative Discovery of Disk Substructure in a Disk around the Class I Protostar L1489 IRS*
S. Ohashi, H. Kobayashi, **J. Sai**, et al, the Astrophysical Journal, 933, 7, 2022
1. *ALMA Reveals a Misaligned Inner Gas Disk inside the Large Cavity of a Transitional Disk*
S. Mayama, E. Akiyama, O. Panić, et al. (**J. Sai, 12th**), the Astrophysical Journal, 868, L3, 2018