

# Ilje Cho

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Postdoctoral Researcher

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## Education and Employment

01/06/2021 - now	Instituto de Astrofísica de Andalucía (IAA) - CSIC Postdoctoral Researcher
01/09/2014 - 25/02/2021	University of Science and Technology (UST) Korea Astronomy and Space Science Institute (KASI) MSc and PhD Integrated course Supervisor: Dr. Taehyun Jung <i>Thesis</i> : VLBI studies of Sagittarius A* at cm-mm wavelengths
04/03/2013 - 30/08/2013	Cook San Francisco, LLC, Nona Lim, U.S. Internship at Financial Managing Department
15/04/2008 - 05/03/2010	Republic of Korea Army, Korea Military Service
02/03/2007 - 21/08/2014	Kyungpook National University, Korea BSc in Astronomy & Atmospheric Science BSc in Economics & Trade Supervisor: Prof. Myeong-Gu Park <i>Thesis</i> : The growth of supermassive black hole

## Research experience

01/06/2021 - now	Postdoctoral Research (full-time) Instituto de Astrofísica de Andalucía (IAA) - CSIC
01/09/2014 - 25/02/2021	PhD thesis research (full-time) University of Science and Technology Korea Astronomy and Space Science Institute, Korea
01/07/2014 - 29/08/2014	Research Internship Program University of Science and Technology Korea Astronomy and Space Science Institute, Korea

## Research Interests

- Supermassive black holes (SMBHs) at the center of active galactic nuclei (AGN)
  - Black hole accretion flow and jet physics
  - AGN feedback on its environments and host galaxy
  - The intermediate-mass black holes
- Radio astronomy with the very long baseline interferometry (VLBI)
  - High-resolution imaging of the SMBHs and the AGN jets
  - VLBI astrometry & polarimetry
- Software development for the VLBI data calibration, imaging, and analysis

## Grants and Awards

### Individual Grant

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|-------------------------|--|
| 30/12/2017 - 29/03/2018 | UST Overseas Training Program (MIT Haystack Observatory)<br>University of Science and Technology (Korea) |
| 01/03/2015 - 29/02/2020 | Global PhD Fellowship (NRF-2015H1A2A1033752)<br>National Research Foundation of Korea                    |

### Joint Award

08/01/2021

### The EHT Collaboration

2021 Group Award (A)  
Royal Astronomical Society (UK)

12/03/2020

Nelson P. Jackson Aerospace Award  
National Space Club and Foundation (USA)

28/01/2020

AAS Bruno Rossi Prize 2020  
American Astronomical Society (AAS; USA)

27/12/2019

Einstein Medal 2020  
Albert-Einstein Society (Switzerland)

16/12/2019

#1 Science Stories of year 2019  
Science Magazine (USA)

19/11/2019

Smithsonian American Ingenuity Award 2019 (Physical Sciences)  
Smithsonian Institution (USA)

03/11/2019

2020 Breakthrough Prize in Fundamental Physics  
Breakthrough Foundation (USA)

09/05/2019

NSF Diamond Achievement Award  
National Science Foundation (NSF; USA)

## Collaboration & Working Group Membership

- The Event Horizon Telescope (EHT) Collaboration
- The next-generation EHT (ngEHT) Collaboration
- East-Asia VLBI Network (EAVN) AGN Science Working Group (*core member*)
- Multi-frequency AGN Survey with KVN (MASK)
- *RadioAstron* AGN Science Working Group

## International Conference Presentations (*representatives only*)

- 2022 • *Unveiled properties of the supermassive black holes with the Event Horizon Telescope*  
- IAU General Assembly, Busan, Korea (***Invited speaker***)
- *The intrinsic structure of Sgr A\* at 13 and 7 mm*  
- IAU General Assembly, Busan, Korea  
- European Astronomical Society Meeting, Valencia, Spain
- 2021 • *EAVN observations toward Sgr A\**  
- The Black Hole Astrophysics Workshop, Virtual-workshop (***Invited speaker***)
- *Sgr A\* studies with KVN/EAVN and prospects with Millimetron*  
- The Millimetron Science Workshop, Virtual-workshop
- 2020 • *The intrinsic structure of Sgr A\* at 22 and 43 GHz*  
- The EHT Collaboration meeting, Virtual-workshop
- 2019 • *Sgr A\* at lower frequencies (< 230 GHz)*  
- The EHT Collaboration meeting, Hawaii, US
- *The frequency dependent core position shift of Sgr A\**  
- Galactic Center Workshop, Yokohama, Japan  
- East Asia Active Galactic Nuclei Workshop, Taipei, Taiwan
- 2018 • *Measuring the Core shift of Sgr A\**  
- The EHT Collaboration Meeting, Nijmegen, Netherlands  
- European VLBI Network Symposium, Granada, Spain
- 2017 • *A comparative study of amplitude calibrations for EAVN and test digital filter modes*  
- The East-Asia VLBI Workshop, Daejeon, Korea
- *Measuring the core shift of Sgr A\**  
- East-Asia To Italy: Nearly Global (EATING) VLBI Workshop, Jeju, Korea  
- Asia Pacific Regional IAU Meeting (APRIM), Taipei, Taiwan
- 2016 • *The core shift of Sgr A\**  
- East-Asia VLBI workshop, Guiyang, China
- 2015 • *SgrA\* 22GHz KaVA (+TAK) observation and its Amplitude Calibration*  
- The KaVA/EAVN Workshop, Sapporo, Japan

## Scientific, Departmental and Outreach activities

12/05/2022	The EHT Press Conference: <i>The shadow of the supermassive black hole at the center of our Galaxy</i> CSIC headquarter, Madrid, Spain
25/11/2021	Alumni talk: <i>Research experience in the large Collaborations</i> Virtual workshop with University of Science and Technology
26/11/2019	Colloquium talk: <i>EHT data processing &amp; imaging towards the black hole shadow of M87</i> Kyungpook National University, Daegu, Korea
19/10/2019	Public lecture: <i>How to observe the black holes ?</i> Daejeon Science Festival (X-STEM), hosted by Daejeon city and DIME Daejeon, Korea
16/05/2019	Public lecture: <i>How to observe the black holes ? (Best presenter)</i> Science SlamD, hosted by IBS, UST, NST, and HelloDD Daejeon, Korea
17/04/2019	Colloquium talk: <i>EHT data processing &amp; imaging towards the black hole shadow of M87</i> KASI, Daejeon, Korea
10/04/2019	The EHT Press Conference: <i>The shadow of the supermassive black hole</i> Seoul press center, Seoul, Korea
13/07/2018	Seminar talk: <i>The VLBI imaging: Sparse Modeling and Dynamical imaging</i> KASI Radio division, Daejeon, Korea
13/03/2018	Seminar talk: <i>Measuring the core shift of Sgr A*</i> MIT Haystack Observatory, Westford, US
03/2016 - 02/2017	Research Assistant at UST-KASI campus

## Software Experience & Language Skills

- UNIX, Linux and Macintosh operating systems
- Python programming
- $\text{\LaTeX}$  word processing
- VLBI softwares
  - Experienced user of AIPS & CASA for data calibration
  - Experienced user of Difmap & eht-imaging for imaging
  - Participating developer of the SMILI imaging software
- Language skills: Korean (*native speaker*) & English (*fluent*)

## Publications

- **PhD Thesis:** VLBI studies of Sagittarius A\* at centimeter-millimeter wavelengths, 2021

## Lead-authored Papers

- **A comparative study of amplitude calibrations for East-Asia VLBI Network: a-priori and template spectrum methods,**  
**Ilje Cho**; Taehyun Jung; Guang-Yao Zhao; Kazunori Akiyama; Satoko Sawada-Satoh; Motoki Kino; Do-Young Byun; Bongwon Sohn; Katsunori M. Shibata; Tomoya Hirota ; Kotaro Niinuma; Yoshinori Yonekura; Kenta Fujisawa; Tomoaki Oyama  
2017, *Publications of the Astronomical Society of Japan*, 69, 87
- **The intrinsic structure of Sagittarius A\* at 1.3 cm and 7 mm,**  
**Ilje Cho**; Guang-Yao Zhao; Tomohisa Kawashima; Motoki Kino; Kazunori Akiyama; Michael D. Johnson; Sara Issaoun; Kotaro Moriyama; Xiaopeng Cheng; Juan-Carlos Algaba; Taehyun Jung; Bong Won Sohn; Thomas P. Krichbaum; Maciek Wielgus; Kazuhiro Hada; Ru-Sen Lu; Yuzhu Cui; Satoko Sawada-Satoh; Zhiqiang Shen; Jongho Park; Wu Jiang; Hyunwook Ro; Kunwoo Yi; Kiyoaki Wajima; Jee Won Lee; Jeffrey Hodgson; Fumie Tazaki; Mareki Honma; Kotaro Niinuma; Sascha Trippe; Tao An; Yingkang Zhang; Jeong Ae Lee; Se-Jin Oh; Do-Young Byun; Sang-Sung Lee; Jae-Young Kim; Junghwan Oh; Shoko Koyama; Keiichi Asada; Xuezheng Wang; Lang Cui; Yoshiaki Hagiwara; Masanori Nakamura; Mieko Takamura; Tomoya Hirota; Koichiro Sugiyama; Noriyuki Kawaguchi; Hideyuki Kobayashi; Tomoaki Oyama; Yoshinori Yonekura; Jongsoo Kim; Ju-Yeon Hwang; Dong-Kyu Jung; Hyo-Ryoung Kim; Jeong-Sook Kim; Chung-Sik Oh; Duk-Gyoo Roh; Jae-Hwan Yeom; Bo Xia; Weiye Zhong; Bin Li; Rongbing Zhao; Jinqing Wang; Qinghui Liu; Zhong Chen  
2021, *Astrophysical Journal*, 926, 108

## Co-authored Papers

- **Pilot KaVA monitoring on the M87 jet: Confirming the inner jet structure and superluminal motions at sub-pc scales,**  
K. Hada; J. Park; M. Kino; K. Niinuma; B. Sohn; H. Ro; T. Jung; J. -C. Algaba; G. -Y. Zhao; S.-S. Lee; K. Akiyama; S. Trippe; K. Wajima; S. Sawada-Satoh; F. Tazaki; **I. Cho**; J. Hodgson; J. Lee; Y. Hagiwara; M. Honma; S. Koyama; J. Oh; T. Lee; H. Yoo; N. Kawaguchi; D. -G. Roh; S.-J. Oh; J. -H. Yeom; D. -K. Jung; C. Oh; H. -R. Kim; J. -Y. Hwang; D. -Y. Byun; S. -H. Cho; H. -G. Kim; H. Kobayashi; K. M. Shibata  
2017, *Publications of the Astronomical Society of Japan*, 69, 71
- **The Size, Shape, and Scattering of Sagittarius A\* at 86 GHz: First VLBI with ALMA,**  
S. Issaoun, M. D. Johnson, L. Blackburn, C. D. Brinkerink, M. Mościbrodzka, A. Chael, C. Goddi, I. Martí-Vidal, J. Wagner, S. S. Doeleman, H. Falcke, T. P. Krichbaum, K. Akiyama, U. Bach, K. L. Bouman, G. C. Bower, A. Broderick, **I. Cho**, G. Crew, J. Dexter, V. Fish, R. Gold, J. L. Gomez, K. Hada, A. Hernandez-Gomez, M. Janssen, M. Kino, M. Kramer, L. Loinard, R.-S. Lu, S. Markoff, D. P. Marrone, L. D. Matthews, J. M. Moran, C. Muller, F. Roelofs, E. Ros, H. Rottmann, S. Sanchez, R. P. J. Tilanus, P. de Vicente, M. Wielgus, J. A. Zensus, G.-Y. Zhao  
2019, *Astrophysical Journal*, 871, 30

- **Source-Frequency Phase-Referencing Observation of AGNS with KAVA Using Simultaneous Dual-Frequency Receiving,**  
Guang-Yao Zhao, Taehyun Jung, Bong Won Sohn, Motoki Kino, Mareki Honma, Richard Dodson, Maria Rioja, Seog-Tae Han, Katsunori Shibata, Do-Young Byun, Kazunori Akiyama, Juan-Carlos Algaba, Tao An, Xiaopeng Cheng, [Ilje Cho](#), Yuzhu Cui, Kazuhiro Hada, Jeffrey A. Hodgson, Wu Jiang, Jee Won Lee, Jeong Ae Lee, Kotaro Niinuma, Jong-Ho Park, Hyunwook Ro, Satoko Sawada-Satoh, Zhi-Qiang Shen, Fumie Tazaki, Sascha Trippe, Kiyoaki Wajima, Yingkang Zhang  
2019, *Journal of the Korean Astronomical Society*, 52, 23
- **Jet Kinematics of the Quasar 4C +21.35 from Observations with the KaVA Very Long Baseline Interferometry Array,**  
Taeseok Lee, Sascha Trippe, Motoki Kino, Bong Won Sohn, Jongho Park, Junghwan Oh, Kazuhiro Hada, Kotaro Niinuma, Hyunwook Ro, Taehyun Jung, Guang-Yao Zhao, Sang-Sung Lee, Juan-Carlos Algaba, Kazunori Akiyama, Kiyoaki Wajima, Satoko Sawada-Satoh, Fumie Tazaki, [Ilje Cho](#), Jeffrey Hodgson, Jeong Ae Lee, Yoshiaki Hagiwara, Mareki Honma, Shoko Koyama, Tao An, Yuzhu Cui, Hyemin Yoo, Noriyuki Kawaguchi, Duk-Gyoo Roh, Se-Jin Oh, Jae-Hwan Yeom, Dong-Kyu Jung, Chungsik Oh, Hyo-Ryoung Kim, Ju-Yeon Hwang, Do-Young Byun, Se-Hyung Cho, Hyun-Goo Kim, Hideyuki Kobayashi, Katsunori M Shibata, Zhiqiang Shen, Wu Jiang, Jee Won Lee  
2019, *Monthly Notices of the Royal Astronomical Society*, 486, 2412
- **First M87 Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole,**  
[The Event Horizon Telescope Collaboration](#),  
2019, *Astrophysical Journal Letters*, 875, L1
- **First M87 Event Horizon Telescope Results. II. Array and Instrumentation,**  
[The Event Horizon Telescope Collaboration](#),  
2019, *Astrophysical Journal Letters*, 875, L2
- **First M87 Event Horizon Telescope Results. III. Data Processing and Calibration,**  
[The Event Horizon Telescope Collaboration](#),  
2019, *Astrophysical Journal Letters*, 875, L3
- **First M87 Event Horizon Telescope Results. IV. Imaging the Central Supermassive Black Hole,**  
[The Event Horizon Telescope Collaboration](#),  
2019, *Astrophysical Journal Letters*, 875, L4
- **First M87 Event Horizon Telescope Results. V. Physical Origin of the Asymmetric Ring,**  
[The Event Horizon Telescope Collaboration](#),  
2019, *Astrophysical Journal Letters*, 875, L5
- **First M87 Event Horizon Telescope Results. VI. The Shadow and Mass of the Central Black Hole,**  
[The Event Horizon Telescope Collaboration](#),  
2019, *Astrophysical Journal Letters*, 875, L6

- **The Event Horizon General Relativistic Magnetohydrodynamic Code Comparison Project**, Porth, O. and [the Event Horizon Telescope Collaboration](#), 2019, *Astrophysical Journal*, 887, 147
- **Kinematics of the M87 Jet in the Collimation Zone: Gradual Acceleration and Velocity Stratification**, Park, Jongho; Hada, Kazuhiro; Kino, Motoki; Nakamura, Masanori; Hodgson, Jeffrey; Ro, Hyun-wook; Cui, Yuzhu; Asada, Keiichi; Algaba, Juan-Carlos; Sawada-Satoh, Satoko; Lee, Sang-Sung; [Cho, Ilje](#); Shen, Zhiqiang; Jiang, Wu; Trippe, Sascha; Niinuma, Kotaro; Sohn, Bong Won; Jung, Taehyun; Zhao, Guang-Yao; Wajima, Kiyoaki Tazaki, Fumie; Honma, Mareki; An, Tao; Akiyama, Kazunori; Byun, Do-Young; Kim, Jongsoo; Zhang, Yinggang; Cheng, Xiaopeng; Kobayashi, Hideyuki; Shibata, Katsunori M.; Lee, Jee Won; Roh, Duk-Gyoo; Oh, Se-Jin; Yeom, Jae-Hwan; Jung, Dong-Kyu; Oh, Chungsik; Kim, Hyo-Ryoung; Hwang, Ju-Yeon; Hagiwara, Yoshiaki, 2019, *Astrophysical Journal Supplement Series*, 243, 26
- **SYMBA: An end-to-end VLBI synthetic data generation pipeline. Simulating Event Horizon Telescope observations of M 87**, Roelofs, F. and [the Event Horizon Telescope Collaboration](#), 2020, *Astronomy&Astrophysics*, 636, 5
- **THEMIS: A Parameter Estimation Framework for the Event Horizon Telescope**, Broderick, A. E. and [the Event Horizon Telescope Collaboration](#), 2020, *Astrophysical Journal*, 897, 193
- **Verification of Radiative Transfer Schemes for the EHT**, Gold, R. and [the Event Horizon Telescope Collaboration](#), 2020, *Astrophysical Journal*, 897, 148
- **Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarc-second resolution**, Kim, J.-Y. and [the Event Horizon Telescope Collaboration](#), 2020, *Astronomy&Astrophysics*, 640, 69
- **Monitoring the Morphology of M87\* in 2009-2017 with the Event Horizon Telescope**, Wielgus, M. and [the Event Horizon Telescope Collaboration](#), 2020, *Astrophysical Journal*, 901, 67
- **Gravitational Test beyond the First Post-Newtonian Order with the Shadow of the M87 Black Hole**, Psaltis, D. and [the Event Horizon Telescope Collaboration](#), 2020, *Physical Review Letters*, 125, 1104
- **First M87 Event Horizon Telescope Results. VII. Polarization of the Ring**, [The Event Horizon Telescope Collaboration](#), 2021, *Astrophysical Journal Letters*, 910, 12
- **First M87 Event Horizon Telescope Results. VIII. Magnetic Field Structure near The Event Horizon**,

- [The Event Horizon Telescope Collaboration](#),  
2021, *Astrophysical Journal Letters*, 910, 13
- **Polarimetric Properties of Event Horizon Telescope Targets from ALMA**,  
Goddi, C. and [the Event Horizon Telescope Collaboration](#),  
2021, *Astrophysical Journal Letters*, 910, 14
  - **Broadband Multi- wavelength Properties of M87 during the 2017 Event Horizon Telescope Campaign**,  
[EHT MWL Science Working Group & EHT Collaboration](#),  
2021, *Astrophysical Journal Letters*, 911, 11
  - **The Polarized Image of a Synchrotron-emitting Ring of Gas Orbiting a Black Hole**,  
Narayan, R. and [the Event Horizon Telescope Collaboration](#),  
2021, *Astrophysical Journal*, 912, 35
  - **Constraints on black-hole charges with the 2017 EHT observations of M87\***,  
Kocherlakota, P. and [the Event Horizon Telescope Collaboration](#),  
2021, *Physical Review D*, 103, 4047
  - **Persistent Non-Gaussian Structure in the Image of Sagittarius A\* at 86 GHz**,  
Issaoun, S.; Johnson, M. D.; Blackburn, L.; Broderick, A.; Tiede, P.; Wielgus, M.; Doeleman, S. S. ; Falcke, H.; Akiyama, K.; Bower, G. C.; Brinkerink, C. D. ; Chael, A.; [Cho, I.](#); Gómez, J. L. ; Hernández-Gómez, A. ; Hughes, D. ; Kino, M.; Krichbaum, T. P.; Liuzzo, E.; Loinard, L.; Markoff, S.; Marrone, D. P.; Mizuno, Y.; Moran, J. M. ; Pidopryhora, Y.; Ros, E.; Rygl, K.; Shen, Z. -Q. ; Wagner, J.,  
2021, *Astrophysical Journal*, 915, 99
  - **Event Horizon Telescope observations of the jet launching and collimation in Centaurus A**,  
Janssen, M. and [the Event Horizon Telescope Collaboration](#),  
2021, *Nature Astronomy*, 5, 1017
  - **East Asian VLBI Network observations of active galactic nuclei jets: imaging with KaVA + Tianma + Nanshan**,  
Cui, Yu-Zhu; Hada, Kazuhiro ; Kino, Motoki ; Sohn, Bong-Won ; Park, Jongho ; Ro, Hyun-Wook ; Sawada-Satoh, Satoko ; Jiang, Wu ; Cui, Lang ; Honma, Mareki ; Shen, Zhi-Qiang ; Tazaki, Fumie ; An, Tao ; [Cho, Ilje](#) ; Zhao, Guang-Yao; Cheng, Xiao-Peng; Niinuma, Kotaro ; Wajima, Kiyooki; Zhang, Ying-Kang ; Kawaguchi, Noriyuki ; Algaba, Juan-Carlos; Koyama, Shoko ; Hirota, Tomoya ; Yonekura, Yoshinori ; Sakai, Nobuyuki ; Xia, Bo ; Jiang, Yong-Bin ; Yu, Lin-Feng ; Gou, Wei ; Hwang, Ju-Yeon ; Jiang, Yong-Chen ; Sun, Yun-Xia ; Jung, Dong-Kyu ; Kim, Hyo-Ryoung ; Kim, Jeong-Sook ; Kobayashi, Hideyuki ; Lee, Jee-Won ; Lee, Jeong-Ae ; Zhang, Hua ; Li, Guang-Hui ; Xu, Zhi-Qiang ; Li, Peng ; Oh, Jung-Hwan ; Oh, Se-Jin ; Oh, Chung-Sik ; Oyama, Tomoaki ; Roh, Duk-Gyoo ; Shibata, Katsunori-M. ; Guo, Wen ; Zhao, Rong-Bing ; Zhong, Wei-Ye ; Wang, Jin-Qing ; Yang, Wen-Jun ; Yan, Hao ; Yeom, Jae-Hwan ; Li, Bin ; Li, Xiao-Fei ; Yuan, Jian-Ping ; Dong, Jian ; Chen, Zhong ; Akiyama, Kazunori; Asada, Keiichi ; Byun, Do-Young ; Hagiwara, Yoshiaki ; Hodgson, Jeffrey ; Jung, Tae-Hyun ; Kim, Kee-Tae ; Lee, Sang-Sung ; Yi, Kunwoo ; Liu, Qing-Hui ; Liu, Xiang ; Lu, Ru-Sen ; Nakamura, Masanori ; Tripp, Sascha ; Wang, Na; Wang, Xue-Zheng ; Zhang, Bo,  
2021, *Research in Astronomy and Astrophysics*, 21, 205



- **Probing the Innermost Regions of AGN Jets and Their Magnetic Fields with RadioAstron. V. Space and Ground Millimeter-VLBI Imaging of OJ 287,**  
Gómez, José L.; Traianou, Efthalia; Krichbaum, Thomas P.; Lobanov, Andrei P. ; Fuentes, Antonio; Lico, Rocco; Zhao, Guang-Yao; Bruni, Gabriele; Kovalev, Yuri Y.; Lähteenmäki, Anne; Voitsik, Petr A. ; Lisakov, Mikhail M.; Angelakis, Emmanouil ; Bach, Uwe; Casadio, Carolina; [Cho, Ilje](#); Dey, Lankeswar; Gopakumar, Achamveedu ; Gurvits, Leonid I.; Jorstad, Svetlana; Kovalev, Yuri A.; Lister, Matthew L.; Marscher, Alan P.; Myserlis, Ioannis; Pushkarev, Alexander B.; Ros, Eduardo; Savolainen, Tuomas; Tornikoski, Merja; Valtonen, Mauri J.; Zensus, Anton, 2022, *Astrophysical Journal*, 924, 122
- **The Variability of the Black Hole Image in M87 at the Dynamical Timescale,**  
Satapathy, K. and [the Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal*, 925, 13
- **New jet feature in the parsec-scale jet of the blazar OJ 287 connected to the 2017 teraelectronvolt flaring activity,**  
Lico, R.; Casadio, C.; Jorstad, S. G. ; Gómez, J. L. ; Marscher, A. P. ; Traianou, E.; Kim, J. -Y.; Zhao, G. -Y.; Fuentes, A. ; [Cho, I.](#) ; Krichbaum, T. P. ; Hervet, O. ; O'Brien, S. ; Boccardi, B. ; Myserlis, I. ; Agudo, I. ; Alberdi, A. ; Weaver, Z. R. ; Zensus, J. A., 2022, *Astronomy & Astrophysics*, 658, 10
- **First Sagittarius A\* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way,**  
[The Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal Letters*, 930, 12
- **First Sagittarius A\* Event Horizon Telescope Results. II. EHT and Multiwavelength Observations, Data Processing, and Calibration,**  
[The Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal Letters*, 930, 13
- **First Sagittarius A\* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole,**  
[The Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal Letters*, 930, 14
- **First Sagittarius A\* Event Horizon Telescope Results. IV. Variability, Morphology, and Black Hole Mass,**  
[The Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal Letters*, 930, 15
- **First Sagittarius A\* Event Horizon Telescope Results.V. Testing Astrophysical Models of the Galactic Center Black Hole,**  
[The Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal Letters*, 930, 16
- **First Sagittarius A\* Event Horizon Telescope Results. VI. Testing the Black Hole Metric,**  
[The Event Horizon Telescope Collaboration](#), 2022, *Astrophysical Journal Letters*, 930, 17

- **Selective Dynamical Imaging of Interferometric Data**,  
Farah, J. and [the Event Horizon Telescope Collaboration](#),  
2022, *Astrophysical Journal Letters*, 930, 18
- **Millimeter Light Curves of Sagittarius A\* Observed during the 2017 Event Horizon Telescope Campaign**,  
Wielgus, M. and [the Event Horizon Telescope Collaboration](#),  
2022, *Astrophysical Journal Letters*, 930, 19
- **A Universal Power-law Prescription for Variability from Synthetic Images of Black Hole Accretion Flows**,  
Georgiev, B. and [the Event Horizon Telescope Collaboration](#),  
2022, *Astrophysical Journal Letters*, 930, 20
- **Characterizing and Mitigating Intraday Variability: Reconstructing Source Structure in Accreting Black Holes with mm-VLBI**,  
Broderick, A. and [the Event Horizon Telescope Collaboration](#),  
2022, *Astrophysical Journal Letters*, 930, 21
- **Unraveling the Innermost Jet Structure of OJ 287 with the First GMVA + ALMA Observations**,  
Zhao, Guang-Yao; Gómez, José L.; Fuentes, Antonio; Krichbaum, Thomas P.; Traianou, Efthalia; Lico, Rocco; [Cho, Ilje](#); Ros, Eduardo; Komossa, S.; Akiyama, Kazunori; Asada, Keiichi; Blackburn, Lindy; Britzen, Silke; Bruni, Gabriele; Crew, Geoffrey B.; Dahale, Rohan; Dey, Lankeswar; Gold, Roman; Gopakumar, Achamveedu ; Issaoun, Sara; Janssen, Michael; Jorstad, Svetlana; Kim, Jae-Young; Koay, Jun Yi; Kovalev, Yuri Y.; Koyama, Shoko; Lobanov, Andrei P.; Loinard, Laurent; Lu, Ru-Sen; Markoff, Sera; Marscher, Alan P.; Martí-Vidal, Iván; Mizuno, Yosuke; Park, Jongho; Savolainen, Tuomas; Toscano, Teresa,  
2022, *Astrophysical Journal*, 932, 72
- **Resolving the Inner Parsec of the Blazar J1924-2914 with the Event Horizon Telescope**,  
Issaoun, S. and [the Event Horizon Telescope Collaboration](#),  
2022, *Astrophysical Journal*, 934, 145
- **Overview of the Observing System and Initial Scientific Accomplishments of the East Asian VLBI Network (EAVN)**,  
Akiyama, Kazunori ; Algaba, Juan-Carlos search ; An, Tao ; Asada, Keiichi ; Asanok, Kitiyane ; Byun, Do-Young ; Chanapote, Thanapol ; Chen, Wen ; Chen, Zhong ; Cheng, Xiaopeng ; Chibueze, James O. ; [Cho, Ilje](#) ; Cho, Se-Hyung ; Chung, Hyun-Soo ; Cui, Lang ; Cui, Yuzhu ; Doi, Akihiro ; Dong, Jian ; Fujisawa, Kenta ; Gou, Wei ; Guo, Wen ; Hada, Kazuhiro ; Hagiwara, Yoshiaki ; Hirota, Tomoya ; Hodgson, Jeffrey A. ; Honma, Mareki ; Imai, Hiroshi ; Jaroenjittichai, Phrudth ; Jiang, Wu ; Jiang, Yongbin ; Jiang, Yongchen ; Jike, Takaaki ; Jung, Dong-Kyu ; Jung, Taehyun ; Kawaguchi, Noriyuki ; Kim, Dong-Jin ; Kim, Hyo-Ryoung ; Kim, Jaeheon ; Kim, Jeong-Sook ; Kim, Kee-Tae ; Kim, Soon-Wook ; Kino, Motoki ; Kobayashi, Hideyuki ; Koyama, Shoko ; Kramer, Busaba H. ; Lee, Jee-Won ; Lee, Jeong Ae ; Lee, Sang-Sung ; Lee, Sang Won ; Li, Bin ; Li, Guanghui ; Li, Xiaofei ; Li, Zhixuan ; Liu, Qinghui ; Liu, Xiang ; Lu, Ru-Sen ; Motogi, Kazuhito ; Nakamura, Masanori ; Niinuma, Kotaro ; Oh, Chungsik ; Oh, Hongjong ; Oh, Junghwan ; Oh, Se-Jin ; Oyama, Tomoaki ; Park, Jongho ; Poshyachinda, Saran ; Ro, Hyunwook ; Roh, Duk-Gyoo ; Rujopakarn, Wiphu ; Sakai, Nobuyuki ; Sawada-Satoh, Satoko ; Shen,

Zhi-Qiang ; Shibata, Katsunori M. ; Sohn, Bong Won ; Soonthornthum, Boonrucksar ; Sugiyama, Koichiro ; Sun, Yunxia ; Takamura, Mieko ; Tanabe, Yoshihiro ; Tazaki, Fumie ; Trippe, Sascha ; Wajima, Kiyoaki ; Wang, Jinqing ; Wang, Na ; Wang, Shiqiang ; Wang, Xuezheng ; Xia, Bo ; Xu, Shuangjing ; Yan, Hao ; Yang, Wenjun ; Yeom, Jae-Hwan ; Yi, Kunwoo ; Yi, Sang-Oh ; Yonekura, Yoshinori ; Yoon, Hasu ; Yu, Linfeng ; Yuan, Jianping ; Yun, Youngjoo ; Zhang, Bo ; Zhang, Hua ; Zhang, Yingkang ; Zhao, Guang-Yao ; Zhao, Rongbing ; Zhong, Weiye  
2022, *Galaxies*, 10, 113

- **Applications of the Source-Frequency Phase-Referencing Technique for ngEHT Observations,**

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- **Millimeter VLBI observations of Sgr A\* with KaVA and KVN,**

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## Software Developments

- **SMILI: Sparse Modeling Imaging Library for Interferometry,**

Akiyama, Kazunori; Tazaki, Fumie; Moriyama, Kotaro; [Cho, Ilje](#); Ikeda, Shiro; Sasada, Mahito; Okino, Hiroki; Honma, Mareki,  
DOI: 10.5281/zenodo.2616725

- **SMILI v0.2.0,**

Moriyama, Kotaro ; Akiyama, Kazunori; [Cho, Ilje](#) ; Zhao, Guang-Yao ; Ikeda, Shiro ; Kofuji, Yutaro ; Honma, Mareki ; Sasada, Mahito ; Tazaki, Fumie ; Okino, Hiroki,  
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