

# Kazuya Takahashi

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As of 26 August 2024

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## **POSITION**

- Apr. 2022 – Present      Postdoctoral Fellow  
Research Center for the Early Universe, University of Tokyo
- Nov. 2017 – Mar. 2022    Postdoctoral Researcher  
Center for Gravitational Physics, Yukawa Institute for Theoretical Physics,  
Kyoto University
- Apr. 2016 – Oct. 2017    Research Assistant  
Frontier Research Institute for Interdisciplinary Sciences, Tohoku University  
& Astronomical Institute, Tohoku University
- Apr. 2014 – Mar. 2016    JSPS Research Fellow  
Waseda University

## **EDUCATION**

- Mar. 2015    Ph.D.    Graduate School of Advanced Science and Engineering, Waseda University  
Supervisor: Prof. Shoichi Yamada
- Mar. 2012    M.S.    Graduate School of Advanced Science and Engineering, Waseda University  
Supervisor: Prof. Shoichi Yamada
- Mar. 2010    B.S.    Department of Physics, Waseda University

## **FELLOWSHIPS & GRANTS**

- Apr. 2014 – Mar. 2016    JSPS Research Fellowship for Young Scientists    2,170,000 JPY

## **TEACHING EXPERIENCES**

- Sep. 2021 – Mar. 2022    *Lecturer*    Fluid Dynamics I (in Japanese), Konan University
- Sep. 2020 – Mar. 2021    *Lecturer*    Fluid Dynamics I (in Japanese), Konan University
- Oct. 2015 – Mar. 2016    *Lecturer*    Fluid Mechanics (in English), Waseda University

## **PROFESSIONAL ACTIVITIES**

### **Peer reviews**

Astronomy & Astrophysics (EDP Science)  
Astroparticle Physics (Elsevier)  
The Astrophysical Journal (IOP Publishing)  
Butsuri (The Physical Society of Japan)  
Journal of Computational Physics (Elsevier)  
Particles (MDPI)

### **Membership**

Feb. 2015 – Present Rironkon (The Association of Theoretical Astronomy and Astrophysics of Japan)  
Apr. 2012 – Present The Astronomical Society of Japan

### **LOC**

29 Sep. 2023 Israel/Japan Transient Theory Workshop, University of Tokyo  
23 Aug.–27 Aug. 2021 Extreme Outflows in Astrophysical Transients, Kyoto University  
24 Sep.–25 Oct. 2019 YITP long-term workshop, Kyoto University  
19 Dec.–21 Dec. 2018 31st Rironkon Symposium, Kyoto University  
26 Nov.–28 Nov. 2018 The second annual symposium of the innovative area, Kyoto University  
14 May–18 May 2018 Jet and Shock Breakouts in Cosmic Transients, Kyoto University  
20 Dec.–22 Dec. 2016 29th Rironkon Symposium, Tohoku University  
17 Aug.–19 Aug. 2014 8th Waseda Workshop on Theoretical Astrophysics and Cosmology, Waseda University

### **Outreach**

Aug. 2022 On-demand Lecture on Gamma-ray Bursts, University of Tokyo Open Campus  
6 Oct.–7 Oct. 2017 Assistant of the Black Hole Camera, Katahira Festival 2017, Tohoku University  
25 Sep.–26 Sep. 2017 Poster Presenter for Astronomical Institute, Tohoku University Open Campus  
27 Sep.–28 Sep. 2016 Poster Presenter for Astronomical Institute, Tohoku University Open Campus

### **AWARDS**

- **Featured Article:** K. Takahashi & S. Yamada (2014) *Exact Riemann solver for ideal magnetohydrodynamics that can handle all types of intermediate shocks and switch-on/off waves*, *Journal of Plasma Physics*, volume 80, issue 02, 255-287, awarded by the journal in May 2015.

# List of Publications and Presentations

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## PUBLICATIONS

### Papers (peer reviewed)

- [14] J. Park, G. Y. Zhao, M. Nakamura, Y. Mizuno, H.-Y. Pu, K. Asada, K. Takahashi, K. Toma, M. Kino, I. Cho, K. Hada, P. G. Edwards, H. Ro, M. Kam, K. Yi, Y. Lee, S. Koyama, D.-Y. Byun, C. Phillips, C. Reymonds, J. A. Hodgson & S.-S. Lee, "Discovery of limb-brightening in the parsec-scale jet of NGC 315 through global VLBI observations and its implications for jet models", *The Astrophysical Journal Letters*, in press.
- [13] M. Arimoto, H. Asada, M. L. Cherry, M. S. Fujii, Y. Fukazawa, A. Harada, K. Hayama, T. Hosokawa, K. Ioka, Y. Itoh, N. Kanda, K. S. Kawabata, K. Kawaguchi, N. Kawai, T. Kobayashi, K. Kohri, Y. Koshio, K. Kotake, J. Kumamoto, M. N. Machida, H. Matsufuru, T. Mihara, M. Mori, T. Morokuma, S. Mukohyama, H. Nakano, T. Narikawa, H. Negoro, A. Nishizawa, T. Ohgami, K. Omukai, T. Sakamoto, S. Sako, M. Sasada, Y. Sekiguchi, M. Serino, J. Soda, S. Sugita, K. Sumiyoshi, H. Susa, T. Suyama, H. Takahashi, K. Takahashi, T. Takiwaki, T. Tanaka, M. Tanaka, A. Tanikawa, N. Tominaga, N. Uchikata, Y. Utsumi, M. R. Vagins, K. Yamada & M. Yoshida, "Gravitational wave physics and astronomy in the nascent era", *Progress of Theoretical and Experimental Physics*, 2023, 10A103, 2023
- [12] K. Takahashi, K. Ioka, Y. Ohira & H. J. van Eerten, "Probing particle acceleration at trans-relativistic shocks with off-axis gamma-ray burst afterglows", *Monthly Notices of the Royal Astronomical Society*, 517, 5541-5559, 2022.
- [11] K. Takahashi & K. Ioka, "Diverse jet structures consistent with the off-axis afterglow of GRB 170817A", *Monthly Notices of the Royal Astronomical Society*, 501, 5746-5756, 2021
- [10] K. Takahashi & K. Ioka, "Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows", *Monthly Notices of the Royal Astronomical Society*, 497, 1217-1235, 2020
- [9] T. Ogihara, K. Takahashi & K. Toma, "A mechanism for triple-ridge emission structure of AGN jets", *The Astrophysical Journal*, 877, 19 (12 pages), 2019
- [8] K. Sugiura, K. Takahashi & S. Yamada, "Linear analysis of the shock instability in core-collapse supernovae: Influence of acoustic power and fluctuations of neutrino luminosity", *The Astrophysical Journal*, 874, 28 (12 pages), 2019
- [7] M. Nakamura, K. Asada, K. Hada, H.-Y. Pu, S. Noble, C. Tseng, K. Toma, M. Kino, H. Nagai, K. Takahashi, J.-C. Algaba, M. Orienti, K. Akiyama, A. Doi, G. Giovannini, M. Giroletti, M. Honma, S. Koyama, R. Lico, K. Niinuma & F. Tazaki, "Parabolic jets from the spinning black hole in M87", *The Astrophysical Journal*, 868, 146 (28 pages), 2018
- [6] K. Takahashi, K. Toma, M. Kino, M. Nakamura & K. Hada, "Fast-spinning black holes inferred from symmetrically limb-brightened radio jets", *The Astrophysical Journal*, 868, 82 (22 pages), 2018
- [5] H. Nagakura, K. Takahashi & Y. Yamamoto, "On the importance of progenitor asymmetry to shock revival in core-collapse supernovae", *Monthly Notices of the Royal Astronomical Society*, 483, 208-222, 2018

- [4] K. Takahashi, W. Iwakami, Y. Yamamoto & S. Yamada, "Links between the shock instabilities in core-collapse supernovae and asymmetric accretions of envelopes", *The Astrophysical Journal*, 831, 75 (30 pages), 2016
- [3] K. Takahashi & S. Yamada, "Linear analysis on the growth of non-spherical perturbations in supersonic accretion flows", *The Astrophysical Journal*, 794, 162 (13 pages), 2014
- [2] K. Takahashi & S. Yamada, "Exact Riemann solver for ideal magnetohydrodynamics that can handle all types of intermediate shocks and switch-on/off waves", *Journal of Plasma Physics*, volume 80, issue 02, 255-287, 2014 (**Selected as a "Featured Article" of the journal, May 2015**)
- [1] K. Takahashi & S. Yamada, "Regular and non-regular solutions of the Riemann problem in ideal magnetohydrodynamics", *Journal of Plasma Physics*, volume 79, issue 03, 335-356, 2013

## Proceedings

- [3] K. Takahashi, K. Ioka, Y. Ohira, H. van Eerten, "Probing the particle acceleration at trans-relativistic shocks with gamma-ray burst afterglows", *Proceedings of Science*, PoS(ICRC2021) 1010, 2021
- [2] K. Takahashi & K. Ioka, "Inverse reconstruction of jet structure from off-axis GRB afterglows", *Proceedings of the Yamada Conference LXXI: Gamma-ray Bursts in the Gravitational Wave Era 2019*, 115-117, 2020
- [1] K. Takahashi & S. Yamada, "On the existence and non-uniqueness of solutions of Riemann problems in ideal magnetohydrodynamics", *Astronomical Society of the Pacific Conference Series*, 488, 261-266, 2014

## PRESENTATIONS

### International Conferences

- [18] K. Takahashi, K. Hotokezaka & K. Ioka, "Imaging jet structures with gamma-ray burst afterglows", *The 14th RESCEU International Symposium: From Large to Small Structures in the Universe*, Tokyo, Japan, 30 Oct.–2 Nov. 2023 (Talk)
- [17] K. Takahashi, K. Ioka, Y. Ohira & H. van Eerten, "Probing particle acceleration at trans-relativistic shocks with off-axis gamma-ray burst afterglows", *Symposium on gravitational wave physics and astronomy:Genesis*, Kyoto, Japan, 25–29 Apr. 2022 (Talk)
- [16] K. Takahashi, K. Ioka, Y. Ohira & H. van Eerten, "Probing the particle acceleration at trans-relativistic shocks with gamma-ray burst afterglows", *37th International Cosmic Ray Conference (ICRC 2021)*, Berlin, Germany (virtual), 12–23 Jul. 2021 (Talk)
- [15] K. Takahashi & K. Ioka, "Diverse jet structures consistent with the off-axis afterglow of GRB 170817A", *The fourth annual area symposium online*, Online (hosted by IPMU, U. Tokyo), 22 & 24 Feb. 2021 (Talk)
- [14] K. Takahashi & K. Ioka, "Diverse jet structures consistent with the off-axis afterglow of GRB 170817A", *Black Hole Astrophysics with VLBI: Multi-Wavelength and Multi-Messenger Era*, Online (hosted by ICRR, U. Tokyo), 18–20 Jan. 2021 (Talk)

- [13] K. Takahashi & K. Ioka, "Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows", *The third annual symposium of the innovative area "Gravitational Wave Physics and Astronomy: Genesis"* (Konan-gakuen 100th anniversary international scientific symposium series), Kobe, Japan, 10–12 Feb. 2020 (Talk)
- [12] K. Takahashi & K. Ioka, "Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows", *Yamada Conference LXXI: Gamma-ray Bursts in the Gravitational-wave Era 2019*, Yokohama, Japan, 28 Oct.– 1 Nov. 2019 (Talk)
- [11] K. Takahashi & K. Ioka, "Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows", *YITP long-term workshop: Multi-Messenger Astrophysics in the Gravitational Wave Era*, Kyoto, Japan, 24 Sep.– 25 Oct. 2019 (Talk)
- [10] K. Takahashi & K. Ioka, "Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows", *Workshop to bring together experts on high energy astrophysics from Japan and Israel*, RIKEN Wako/Kobe Campuses, Japan, 18–23 Jul. 2019 (**Invited Talk**)
- [9] K. Takahashi & K. Ioka, "Inverse problem of reconstructing the jet energy distribution from afterglow light curves", *The second annual symposium of the innovative area "Gravitational Wave Physics and Astronomy: Genesis"*, Kyoto, Japan, 26–28 Nov. 2018 (Talk)
- [8] K. Takahashi & K. Ioka, "Jet energy distribution inferred from afterglow light curves", *Jet and Shock Breakouts in Cosmic Transients*, Kyoto, Japan, 14–18 May 2018 (**Invited Talk**)
- [7] K. Takahashi, K. Toma, M. Kino, M. Nakamura & K. Hada, "Parameter dependence of limb-brightening emission from AGN jets", *Dawn of a new era for black hole jets in active galaxies*, Sendai, Japan, 25–27 Jan. 2018 (Talk)
- [6] K. Takahashi, K. Toma, M. Kino, M. Nakamura & K. Hada, "Radio emission from the relativistic jet of M87", *Challenges of AGN Jets*, Mitaka, Japan, 17–20 Jan. 2017 (Talk)
- [5] K. Takahashi, W. Iwakami, Y. Yamamoto & S. Yamada, "Links between the shock instabilities and asymmetric accretions of envelopes", *2nd NAOJ-ECT\* Workshop on Many Riddles About Core-Collapse Supernovae: 1 Bethe and Beyond*, Mitaka, Japan, 27 Jun.–1 Jul. 2016 (Talk)
- [4] K. Takahashi, W. Iwakami, Y. Yamamoto & S. Yamada, "Links between fluid instability in a core-collapse supernova and fluctuations in a collapsing progenitor", *Bimonthly meeting "New development in astrophysics through multimessenger observations of gravitational wave sources"*, Kyoto, Japan, 23 Apr. 2016 (**Invited Talk**)
- [3] K. Takahashi, Y. Yamamoto, W. Iwakami & S. Yamada, "Standing Accretion Shock Instability Revisited", *Numazu Workshop 2015: Challenges of modeling supernovae with nuclear data*, Mishima, Japan, 1–4 Sep. 2015 (Poster)
- [2] K. Takahashi & S. Yamada, "Study on the growth and time-variability of fluctuations in supersonic flows: toward more realistic investigations on standing accretion shock instability", *Multi-Messengers from Core-Collapse Supernovae (MMCOCS)*, Fukuoka, Japan, 2–6 Dec. 2013 (Poster)
- [1] K. Takahashi & S. Yamada, "On the existence and non-uniqueness of solutions of Riemann problems in ideal magnetohydrodynamics", *ASTRONUM 2013 (8th International Conference on Numerical Modeling of Space Plasma Flows)*, Biarritz, France, 1–5 Jul. 2013 (Talk)

## Seminar Talks (overseas)

- [2] “The link between fluid instabilities in a core-collapse supernova and asymmetric accretion flows in a collapsing progenitor”, *TAPIR in California Institute of Technology*, Pasadena, USA, 18 Mar. 2016
- [1] “On the intermediate shocks and non-uniqueness of the solutions in ideal MHD Riemann problems”, *Max Planck Institute for Astrophysics*, Garching, Germany, 9 Jul. 2013

## Domestic Conferences in Japan

- [33] 高橋和也, 仏坂健太, 井岡邦仁, 「Imaging GRB jet structures with radio afterglows」, 高エネルギー宇宙物理学研究会 2023, 東京大学, 11 月, 2023 年  
([K. Takahashi](#), K. Hotokezaka, & K. Ioka, University of Tokyo, Nov., 2023)
- [32] 高橋和也, 仏坂健太, 井岡邦仁, 「ガンマ線バースト残光の電波像とジェット構造の関係の研究」, 日本天文学会 2023 年秋季年会, 名古屋大学, 9 月, 2023 年  
([K. Takahashi](#), K. Hotokezaka, & K. Ioka, Nagoya University, Sep., 2023)
- [31] 高橋和也, 「東北大ポストクの思い出と相対論的ジェット」, 天体理論グループ 10 周年記念研究会: 杜の都における宇宙物理の 10 年, 東北大学, 7 月, 2023 年 (招待講演)  
([K. Takahashi](#), Tohoku University, Jul., 2023 (**Invited Talk**))
- [30] 高橋和也, 井岡邦仁, 大平豊, Hendrik van Eerten, 「高密度環境下の off-axis GRB 残光の観測による粒子加速モデルの検証」, 第 34 回理論懇シンポジウム, Online, 12 月, 2021 年 (ポスター)  
([K. Takahashi](#), K. Ioka, Y. Ohira, & Hendrik van Eerten, Online, Dec., 2021 (Poster))
- [29] 高橋和也, 井岡邦仁, 大平豊, Hendrik van Eerten, 「ガンマ線バースト残光観測で探る trans-relativistic 衝撃波における粒子加速」, 高エネルギー宇宙物理学研究会 2021, Online, 11 月, 2021 年 (口頭)  
([K. Takahashi](#), K. Ioka, Y. Ohira, & Hendrik van Eerten, Online, Nov., 2021 (Talk))
- [28] 高橋和也, 井岡邦仁, 大平豊, Hendrik van Eerten, 「ガンマ線バースト残光観測で探る trans-relativistic 衝撃波における粒子加速」, 日本物理学会 2021 年秋季大会, Online, 9 月, 2021 年 (口頭)  
([K. Takahashi](#), K. Ioka, Y. Ohira, & Hendrik van Eerten, Online, Sep., 2021 (Talk))
- [27] 高橋和也, 井岡邦仁, 大平豊, Hendrik van Eerten, 「ガンマ線バースト残光観測で探る trans-relativistic 衝撃波における粒子加速」, 日本天文学会 2021 年秋季年会, Online, 9 月, 2021 年 (口頭)  
([K. Takahashi](#), K. Ioka, Y. Ohira, & Hendrik van Eerten, Online, Sep., 2021 (Talk))
- [26] 高橋和也, 井岡邦仁, 大平豊, Hendrik van Eerten, 「Probing the particle acceleration at trans-relativistic shocks with gamma-ray burst afterglows」, Extreme Outflows in Astrophysical Transients, 京都大学, 8 月, 2021 年 (口頭)  
([K. Takahashi](#), K. Ioka, Y. Ohira, & Hendrik van Eerten, Kyoto University, Aug., 2021 (Talk))
- [25] 高橋和也, 井岡邦仁, 大平豊, 「ガンマ線バースト残光観測で迫る Trans-relativistic shock による粒子加速」, 第 33 回理論懇シンポジウム, オンライン, 12 月, 2020 年 (ポスター)  
([K. Takahashi](#), K. Ioka & Y. Ohira, Online, Dec., 2020 (Poster))
- [24] 高橋和也, 井岡邦仁, 大平豊, 「GRB 残光のスペクトルの時間進化」, 高エネルギー宇宙物理学研究会 2020, オンライン, 12 月, 2020 年 (口頭)  
([K. Takahashi](#), K. Ioka & Y. Ohira, Online, Dec., 2020 (Talk))

- [23] 高橋和也、井岡邦仁,「ガンマ線バーストに付随する相対論的ジェット構造」, 日本物理学会 2020 年秋季大会, 14pSL-5, Online, 9 月, 2020 年 (口頭)  
([K. Takahashi](#) & K. Ioka, Online, Sep., 2020 (Talk))
- [22] 高橋和也、井岡邦仁,「GRB 170817A の非自明なジェット構造」, 日本天文学会 2020 年秋季年会, W04a, Online, 9 月, 2020 年 (口頭)  
([K. Takahashi](#) & K. Ioka, Online, Sep., 2020 (Talk))
- [21] 高橋和也、井岡邦仁,「GRB 170817A のジェット構造の多様性」, Recent Topics in Time-Domain High-Energy Messenger Astrophysics, 京都大学, 8 月, 2020 年 (口頭)  
([K. Takahashi](#) & K. Ioka, Kyoto University, Aug., 2020 (Talk))
- [20] 高橋和也、井岡邦仁,「Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows」, 第 32 回理論懇シンポジウム, 国立天文台三鷹キャンパス, 12 月, 2019 年 (ポスター)  
([K. Takahashi](#) & K. Ioka, NAOJ Mitaka Campus, Dec., 2019 (Poster))
- [19] 高橋和也、井岡邦仁,「Inverse reconstruction of jet structure from off-axis gamma-ray burst afterglows」, 高エネルギー宇宙物理学研究会 2019, 山形県蔵王アストリアホテル, 12 月, 2019 年 (口頭)  
([K. Takahashi](#) & K. Ioka, Yamagata, Dec., 2019 (Talk))
- [18] 高橋和也、井岡邦仁,「ガンマ線バーストの残光光度曲線からジェットのエネギー構造を解く逆問題の研究」, 日本天文学会 2019 年春季年会, W49c, 法政大学, 3 月, 2019 年 (ポスター)  
([K. Takahashi](#) & K. Ioka, Hosei University, Mar., 2019 (Poster))
- [17] 高橋和也、井岡邦仁,「ガンマ線バーストの残光光度曲線からジェットのエネギー構造を解く逆問題の研究」, 第 31 回理論懇シンポジウム, 京都大学, 12 月, 2018 年 (ポスター)  
([K. Takahashi](#) & K. Ioka, Kyoto University, Dec., 2018 (Poster))
- [16] 高橋和也、當真賢二、紀基樹、中村正徳、秦和弘,「相対論的ジェットの構造と観測される電波像の関係」, 第 30 回理論懇シンポジウム, 東京大学, 12 月, 2017 年 (口頭)  
([K. Takahashi](#), K. Toma, M. Kino, M. Nakamura & K. Hada, University of Tokyo, Dec., 2017 (Talk))
- [15] 高橋和也、當真賢二、紀基樹、中村正徳、秦和弘,「相対論的ジェットの構造と観測される電波像の関係について」, 高エネルギー宇宙物理学研究会 2017, 京都大学, 9 月, 2017 年 (口頭)  
([K. Takahashi](#), K. Toma, M. Kino, M. Nakamura & K. Hada, Kyoto University, Sep., 2017 (Talk))
- [14] 高橋和也、當真賢二、紀基樹、中村正徳、秦和弘,「活動銀河 M87 の相対論的ジェットからの電波放射」, 日本天文学会 2017 年春季年会, S03a, 九州大学, 3 月, 2017 年 (口頭)  
([K. Takahashi](#), K. Toma, M. Kino, M. Nakamura & K. Hada, Kyushu University, Mar., 2017 (Talk))
- [13] 高橋和也、長倉洋樹、山本佑,「重力崩壊型超新星における停滞衝撃波復活に必要な鉄コア外層の揺らぎの大きさについて」, 第 29 回理論懇シンポジウム, 東北大学, 12 月, 2016 年 (ポスター)  
([K. Takahashi](#), H. Nagakura & Y. Yamamoto, Tohoku University, Dec., 2016 (Poster))
- [12] 高橋和也、當真賢二、紀基樹、中村正徳、秦和弘,「活動銀河 M87 の相対論的ジェットからの電波放射」, 高エネルギー宇宙物理学研究会 2016, 青山学院大学, 11 月, 2016 年 (ポスター)  
([K. Takahashi](#), K. Toma, M. Kino, M. Nakamura & K. Hada, Aoyama Gakuin University, Nov., 2016 (Poster))

- [11] 高橋和也、長倉洋樹、山本佑、「停滞衝撃波復活に必要な鉄コア外層の揺らぎの大きさの研究」, 日本天文学会 2016 年秋季年会, K06a, 愛媛大学, 9 月, 2016 年 (口頭)  
(K. Takahashi, H. Nagakura & Y. Yamamoto, Ehime University, Sep., 2016 (Talk))
- [10] 高橋和也、山本佑、岩上わかな、山田章一、「降着流の非球対称・非定常性を取り入れた定在降着衝撃波不安定性の線型解析」, 日本天文学会 2016 年春季年会, K02a, 首都大学東京, 3 月, 2016 年 (口頭)  
(K. Takahashi, Y. Yamamoto, W. Iwakami & S. Yamada, Tokyo Metropolitan University, Mar., 2016 (Talk))
- [9] 高橋和也、山本佑、岩上わかな、山田章一、「定在降着衝撃波不安定性のラプラス変換を用いた線型解析」, 第 28 回理論懇シンポジウム, 大阪大学, 12 月, 2015 年 (ポスター)  
(K. Takahashi, Y. Yamamoto, W. Iwakami & S. Yamada, Osaka University, Dec., 2015 (Poster))
- [8] 高橋和也、山本佑、山田章一, “SASI under non-spherical accretion flows”, 日本天文学会 2015 年春季年会, K05a, 大阪大学, 3 月, 2015 年 (口頭)  
(K. Takahashi, Y. Yamamoto & S. Yamada, Osaka University, Mar., 2015 (Talk))
- [7] K. Takahashi, Y. Yamamoto & S. Yamada, “Linear analysis of the standing accretion shock instability under non-spherically symmetric accretion flows”, RIKEN-IPMU-RESCEU Joint Meeting 2015, 東京大学ビッグバン宇宙国際研究センター, 3 月, 2015 年 (口頭)  
(K. Takahashi, Y. Yamamoto & S. Yamada, RESCEU, University of Tokyo, Mar., 2015 (Talk))
- [6] 高橋和也、山本佑、山田章一, “Linear analysis of the standing accretion shock instability with non-spherical accretion flows”, 第 27 回理論懇シンポジウム, 国立天文台三鷹キャンパス, 12 月, 2014 年 (口頭)  
(K. Takahashi, Y. Yamamoto & S. Yamada, NAOJ Mitaka Campus, Dec., 2014 (Talk))
- [5] 高橋和也、山田章一, 「親星の対流層が定在降着衝撃波不安定性に与える影響の解析」, 日本天文学会 2013 年秋季年会, K22a, 東北大学, 9 月, 2013 年 (口頭)  
(K. Takahashi & S. Yamada, Tohoku University, Sep., 2013 (Talk))
- [4] 高橋和也、山田章一, 「理想 MHD Riemann 問題の中間衝撃波の物理的妥当性に関する新しい示唆について」, 日本物理学会 第 68 回年次大会, 26aEA7, 広島大学, 3 月, 2013 年 (口頭)  
(K. Takahashi & S. Yamada, Hiroshima University, Mar., 2013 (Talk))
- [3] 高橋和也、山田章一, “Regular and non-regular solutions of the Riemann problem in ideal magnetohydrodynamics”, 卓越した大学拠点形成支援事業スタートアップ・シンポジウム, 早稲田大学, 3 月, 2013 年 (ポスター)  
(K. Takahashi & S. Yamada, Waseda University, Mar., 2013 (Poster))
- [2] 高橋和也、山田章一, “Regular and non-regular solutions of the Riemann problem in ideal magnetohydrodynamics”, 第 25 回理論懇シンポジウム, つくば国際会議場, 12 月, 2012 年 (ポスター)  
(K. Takahashi & S. Yamada, University of Tsukuba, Dec., 2012 (Poster))
- [1] 高橋和也、山田章一, 「理想 MHD Riemann 問題の解の非一意性と安定性」, 日本天文学会 2012 年春季年会, J15a, 龍谷大学, 3 月, 2012 年 (口頭)  
(K. Takahashi & S. Yamada, Ryukoku University, Mar., 2012 (Talk))



## Seminar Talks (domestic)

- [10] 「ガンマ線バースト残光で探る trans-relativistic 衝撃波での粒子加速」, Bimonthly meeting, 広島大学 (オンライン), 4月9日, 2022年  
(Hiroshima University (online), 9 Apr., 2022)
- [9] “Limb-brightening radio emission from the relativistic jet of M87”, 前田・山田研究室セミナー, 早稲田大学, 5月12日, 2017年  
(Waseda University, 12 May, 2017)
- [8] “Limb-brightening radio emission from the relativistic jet of M87”, Ta-lab. seminar, 名古屋大学, 4月24日, 2017年  
(Nagoya University, 24 Apr., 2017)
- [7] “On the exact MHD Riemann solver”, Ta-lab. seminar, 名古屋大学, 12月10日, 2015年  
(Nagoya University, 10 Dec., 2015)
- [6] “On the intermediate shocks and non-uniqueness of the solutions in ideal MHD Riemann problems”, Ta-lab. seminar, 名古屋大学, 5月13日, 2015年  
(Nagoya University, 13 May, 2015)
- [5] “Linear analysis of the standing accretion shock instability with non-spherical flows”, Ta-lab. seminar, 名古屋大学, 2月2日, 2015年  
(Nagoya University, 2 Feb., 2015)
- [4] “On the existence and non-uniqueness of solutions of Riemann problems in ideal magnetohydrodynamics”, Ta-lab. seminar, 名古屋大学, 5月31日, 2013年  
(Nagoya University, 31 May, 2013)
- [3] 「理想 MHD 方程式の未解決問題」, 高エネルギーセミナー, 国立天文台, 12月6日, 2012年  
(NAOJ, 6 Dec., 2012)
- [2] 「理想 MHD Riemann 問題における intermediate shocks」, プラズマセミナー, 国立天文台, 11月30日, 2012年  
(NAOJ, 30 Nov., 2012)
- [1] 「理想 MHD Riemann 問題の解の非一意性と安定性」, 茂山研究室セミナー, 東京大学ビッグバン宇宙国際研究センター, 7月13日, 2012年  
(University of Tokyo, 13 Sep., 2012)