Curriculum Vitae

August 24, 2024

Name **Hisa-aki SHINKAI, Dr.Sci.**

Present position

Professor, Osaka Institute of Technology, Japan (2012 April)

Address

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Osaka Institute of Technology
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Education

Undergraduate Course of Physics, Waseda University, Tokyo, Japan
Attended from April 1986 to March 1990.
B.Sci., Waseda University, March 1990.

Graduate School, Department of Physics, Waseda University, Japan
Attended from April 1990 to March 1995.
M.Sci., Waseda University, March 1992.
Ph.D.Sci., Waseda University, March 1995.
Ph.D. Supervisor – Kei-ichi Maeda.

Employment

April 1994 – October 1996
Assistant Professor, Department of Physics,
Waseda University, Tokyo, Japan

November 1996 – August 1999
Postdoctoral Associate,
Department of Physics, Washington University, St. Louis, Missouri, USA
(advisors: Prof. Clifford M. Will, Prof. Wai-Mo Suen)

September 1999 – August 2001
JSPS Research Fellow Abroad; Postdoctral Scholar
(Japan Society for the Promotion of Science)
Centre for Gravitational Physics and Geometry, Department of Physics,
The Pennsylvania State University,
University Park, Pennsylvania, USA
(host: Prof. Abhay Ashtekar)

April 2001 – December 2003
RIKEN Special Postdoctoral Researcher
Computational Science Division,
Institute of Physical and Chemical Research (RIKEN)
Wako, Saitama, 351-0198 Japan
(advisor: Dr. Toshikazu Ebisuzaki)

January 2004 – January 2006
Senior Scientist
Research Department, Inamori Foundation
Shimogyo-ku, Kyoto, 600-8411 Japan

January 2004 – present
Visiting Researcher
Ebisuzaki Computational Astrophysics group,
Institute of Physical and Chemical Research (RIKEN)
Wako, Saitama, 351-0198 Japan

April 2006 – present
Professor (April 2012 –)
Director of International Center (April 2013 –March 2017)
Associate Professor (April 2006 – March 2012)
Faculty of Information Science and Technology, Osaka Institute of Technology
Kitayama 1-79-1, Hirakata, Osaka 573-0196, Japan

Position held (short period)

July 1990 – September 1990
Fellow of International Association for Exchanging Students for Technical Experiences (IAESTE), visiting Delft University, The Netherlands

May and September 1993
Short-period Research Fellow at Yukawa Institute for Theoretical Physics,
Kyoto University, Japan

October 2002
Visiting Associate in Physics in Division of Physics, Mathematics and Astronomy,
California Institute of Technology, USA

September 2012 –
Part-time Lecturer, Mukogawa Woman's University, Hyogo, Japan

Professional Affiliations

Chair of the board
KAGRA Scientific Congress (2017/8–2019/8, 2019/8–2021/8),

Referee contributions for
Physical Review Letters (APS),
Physical Review D (APS),
Classical and Quantum Gravity (IoP),
Journal of Physics: Conference Series (IoP),
Progress for Theoretical Physics (JPS),

Journal of the Physics Society Japan (JPS),
Journal of Applied Physics Society Japan (JAPS),
European Physical Journal C,
Space Science Reviews,
and *General Relativity and Gravitation* (GRG)

Member of *Physical Society of Japan*
Astronomical Society of Japan
Japan Society for Industrial and Applied Mathematics
American Physical Society (USA)
American Association of Physics Teacher (USA)
Institute of Physics (UK)
International Society on General Relativity and Gravitation
Rironkon (Japanese Theoretical Astrophysicists)
Soryushiron group (Japanese Particle Physicists)
The History of Science Society of Japan
Japan Society for Teaching and Popularization of Astronomy

Editorial board of
New book review column in *Butsuri* journal (Physical Society of Japan),
2001-2003

Funded as the principal investigator

- Grant-in-Aid for Scientific Research Fund of the Ministry of Education, Science, Sports and Culture No. 07854014 (1995)
  1 M yen (∼$10K), for personal researches

- Waseda University Grant for Special Research Projects (1995,1996)
  750,000 yen (∼$7,500), for personal researches (1995)
  400,000 yen (∼ $4,000), for personal researches (1996)

- Grant-in-Aid for Scientific Research Fund of Japan Society for the Promotion of Science, No. 14740179 (2002).
  Several New Approaches to Numerical Simulations in General Relativity
  3.5 M yen (∼$30K), for personal researches (2002/4-2005/3)

- Osaka Institute of Technology Grant for Special Research Projects (2007)
  500,000 yen (∼$4,500), for personal researches (2007)

- Grant-in-Aid for Scientific Research Fund of Japan Society for the Promotion of Science, No. 22540293 (2010).
  Numerical Investigations of Singularities in Higher-Dimensional Space-time
  3.4 M yen (∼$37K), for personal researches (2010/4-2014/3)

- Grant-in-Aid for Scientific Research Fund of Japan Society for the Promotion of Science, No. 25400277 (2013).
  Non-linear dynamics in Extended Gravity Theories
  3.8 M yen (∼$38K), for personal researches (2013/4-2018/3)

- Grant-in-Aid for Scientific Research Fund of Japan Society for the Promotion of Science, No. 19H01901 (2019).
  New directions in gravitational-wave data analysis: both in computing algorithms and hardwares including its outreach activities
  13 M yen (∼$120K), for personal researches (2019/4-2024/3)

- Grant-in-Aid for Scientific Research Fund of Japan Society for the Promotion of Science, No. 19K21621 (2019).
  Establishment of cultural astronomy: Acceleration and integration of arts and sciences on cultural heritage, astronomical phenomena, and mathematical understanding
  4.8 M yen (∼$45K), for personal researches (2019/4-2022/3)

- Grant-in-Aid for Scientific Research Fund of Japan Society for the Promotion of Science, No. 24K07029 (2024).
  Black-hole formation scenario and test of general relativity using gravitational wave data
  3.5 M yen (∼$25K), for personal researches (2024/4-2029/3)

Research Interests [see Publications (articles)]

- General Relativistic Effects
  - Gravitational Collapse [7, 36, 37, 43]
  - Relativistic Stars
    - Neutron Stars [12]
    - Boson Stars [9, 10]
    - Black Holes [18, 20, 27, 46]
    - Wormholes [22, 41, 43]
  - Gravitational Wave [7, 20, 27, 42, 46]
- Cosmology
  - Inflationary Universe [2, 3, 5]
  - Higher dimensional models [15, 18, 26, 36, 37, 43]
- The Einstein equations
  - Exact solutions [4]
  - Characteristic formulations [4, 20]
  - Cannonical formulations [4, 6, 19, 21, 34]
  - Hyperbolic formulations [11, 14, 13, 16, 17, 19]
  - Asymptotically-constrained systems [17, 19, 21, 23, 24, 26, 33, 35, 39, 40]
  - Testbeds for numerical relativity [25, 33, 39]
- Theory of gravitation:
  - Connection formulation [6, 8, 11, 14, 13, 16, 17, 34]
  - Scalar-Tensor theory [7, 9, 10]
  - Post-Newtonian approximation [12]
  - Higher dimensional equations [26, 34, 36, 41, 43]
  - Gravitational redshift [49]
- Observation of Gravitational Wave
  - TAMA[28, 29, 30, 32]
  - DECIGO[31, 38, 54]
  - KAGRA[44, 45, 47, 50, 52, 53, 55, 56, 83, 85, 87]
  - LIGO-Virgo-KAGRA[51][58]-[82], [84]-[97]
  - Review[57]
- History of Physics, Astronomy

List of Publications

Articles in Refereed Journals

1. Bistability in an Ising model with non-Hamiltonian dynamics
   with J.R.Heringa, H.W.J.Blöte, A.Hoogland and R.K.P.Zia
   Physical Review **B 45** (1992) 5707-5709

2. Can gravitational waves prevent inflation?
   with K. Maeda
   Physical Review **D 48** (1993) 3910-3913

3. Generality of inflation in a planar universe
   with K. Maeda
   Physical Review **D 49** (1994) 6367-6378

4. A '3+1' method for finding principal null directions
   with L. Gunnarsen and K. Maeda
   Classical Quantum Gravity **12** (1995) 133-140

5. Dynamics of topological defects and inflation
   with N. Sakai, T. Tachizawa and K. Maeda
   Physical Review **D 53** (1996) 655-661

6. Constraints and reality conditions in the Ashtekar formulation of general relativity
   with G.Yoneda
   Classical Quantum Gravity **13** (1996) 783-790

7. Gravitational waves in Brans-Dicke theory : Analysis by test particles around a Kerr black hole
   with M. Saijo and K. Maeda
   Physical Review **D 56** (1997) 785-797

8. Tric for passing degenerate metrics in the Ashtekar formulation
   with G. Yoneda and A. Nakamichi
   Physical Review **D 56** (1997) 2086-2093

9. Generation of scalar-tensor gravity effects in equilibrium state boson stars
   with G.L. Comer
   Classical Quantum Gravity **15** (1998) 669-688

10. Dynamical evolution of boson stars in Brans-Dicke theory
    with J. Balakrishna
    Physical Review **D 58** (1998) 044016 (13 pages)

11. Symmetric hyperbolic system in the Ashtekar formulation
    with G. Yoneda
    Physical Review Letters **82** (1999) 263-266

12. Truncated post-Newtonian neutron star model
    Physical Review **D 60** (1999) 067504 (4 pages)

13. Asymptotically constrained and real-valued system based on Ashtekar's variables
with G. Yoneda
Physical Review **D 60** (1999) 101502 (Rapid Communication, 5 pages)

14. Constructing hyperbolic systems in the Ashtekar formulation of general relativity
with G. Yoneda
Int. J. Mod. Phys. **D 9** (2000) 13-34

15. Fate of the Kaluza-Klein bubbles
with T. Shiromizu
Physical Review **D 62** (2000) 024010 (8 pages)

16. Hyperbolic formulations and numerical relativity: experiments using Ashtekar's connection variables
with G. Yoneda
Classical Quantum Gravity **17** (2000) 4799-4822

17. Hyperbolic formulations and numerical relativity II: Asymptotically constrained systems of Einstein equations
with G. Yoneda
Classical Quantum Gravity **18** (2001) 441-462

18. Charged brane world black holes
with A. Chamblin, H. S. Reall and T. Shiromizu
Physical Review **D 63** (2001) 064015 (11 pages)

19. Constraint propagation in the family of ADM systems
with G. Yoneda,
Physical Review **D 63** (2001) 124019 (9 pages)

20. Quasi-spherical approximation for rotating black holes
with S.A. Hayward
Physical Review **D 64** (2001) 044002 (8 pages)

21. Adusted ADM systems and their expected stability properties: constraint propagation analysis in Schwarzschild spacetime
with G. Yoneda
Classical Quantum Gravity **19** (2002) 1027-1049

22. Fate of the first traversible wormhole: black-hole collapse or inflationary expansion
with S.A. Hayward
Physical Review D **66** (2002) 044005 (9 pages)

23. Advantages of modified ADM formulation: constraint propagation analysis of Baumgarte-Shapiro-Shibata-Nakamura system
with G. Yoneda
Physical Review D **66** (2002) 124003 (10 pages)

24. Diagonalizability of constraint propagation matrix
with G. Yoneda
Classical Quantum Gravity **20** (2003) L31-36 (Letter)

25. Toward standard testbeds for numerical relativity
with M. Alcubierre, G. Allen, C. Bona, D. Fiske, T. Goodale, F.S. Guzman, I. Hawke, S. Hawley, S. Husa, M. Koppitz, C. Lechner, D. Pollney, D. Rideout, E. Schnetter, E. Seidel, D. Shoemaker, B. Szilagyi, R. Takahashi, and J. Winicour (Mexico Numerical Relativity Workshop 2002 Participants),
Classical Quantum Gravity **21** (2004) 589-613.

26. Constraint propagation in $(N+1)$-dimensional space-time
with G. Yoneda
Gen. Rel. Grav. **36** (2004) 1931-1937

27. Gravitational waves from merging intermediate-mass black holes
with T. Matsubayashi and T. Ebisuzaki
Astrophys. J. **614** (2004) 864-868

28. Observation results by the TAMA300 detector on gravitational wave bursts from stellar-core collapses
TAMA collaboration
Physical Review D **71** (2005) 082002 (17 pages)

29. Upper limits from the LIGO and TAMA detectors on the rate of gravitational-wave bursts
with LIGO Scientific Collaboration, TAMA Collaboration
Physical Review D **72** (2005) 122004 (16 pages)

30. Joint LIGO and TAMA300 Search for Gravitational Waves from Inspiralling Neutron Star Binaries
with LIGO Scientific Collaboration, TAMA Collaboration
Physical Review D **73** (2006) 102002 (10 pages)

31. The Japanese space gravitational wave antenna: DECIGO
DECIGO collaboration
Class. Quantum Grav. 23 (2006) S125-S132

32. Results of the search for inspiraling compact star binaries from TAMA300's observation in 2000-2004
with TAMA Collaboration
Physical Review D **74** (2006) 122002 (8 pages)

33. Numerical Experiments of adjusted BSSN systems for controlling constraint violations
with K. Kiuchi
Physical Review D **77** (2008) 044010 (11 pages)

34. $N+1$ formalism in Einstein-Gauss-Bonnet gravity
with T. Torii
Physical Review D **78** (2008) 084037 (13 pages)

35. Formulations of the Einstein equations for numerical simulations
Journal of Korean Physical Society, 54 (2009) 2513-2528, available as arXiv:0805.0068

36. Black Objects and Hoop Conjecture in Five-dimensional Space-time
with Y. Yamada
Class. Quantum Grav. 27 (2010) 045012 (15 pages)

37. Formation of naked singularities in five-dimensional space-time
with Y. Yamada
Physical Review D **83** (2011) 064006 (5 pages)

38. The Japanese space gravitational wave antenna: DECIGO
DECIGO collaboration
Class. Quantum Grav. 28 (2011) 094011 (12 pages)

39. Constraint propagation of C^2-adjusted formulation – Another recipe for robust ADM evolution system –
with T. Tsuchiya and G. Yoneda
Physical Review D **83** (2011) 064032 (10 pages)

40. Constraint propagation of C^2-adjusted formulation II – Another recipe for robust BSSN evolution system –
with T. Tsuchiya and G. Yoneda
Physical Review D **85** (2012) 044018 (12 pages)

41. Wormholes in higher dimensional space-time: Exact solutions and their linear stability analysis
with T. Torii
Physical Review D **88** (2013) 064027 (6 pages)

42. Gravitational waves from merging intermediate-mass black holes : II Event rates at ground-based detectors
with N. Kanda and T. Ebisuzaki
Astrophys. J. **835** (2017) 276 (8 pages)

43. Nonlinear dynamics in the Einstein-Gauss-Bonnet gravity
with T. Torii
Physical Review D **96** (2017) 044009 (14 pages)

44. Construction of KAGRA: an Underground Gravitational Wave Observatory
KAGRA Collaboration
Prog. Theor. Exp. Phys. (2018) 013F01 [arXiv:1712.00148]

45. KAGRA: 2.5 Generation Interferometric Gravitational Wave Detector
KAGRA collaboration
Nature Astronomy 3 (2019) 35 [arXiv:1811.08079]

46. INO: Interplanetary Network of Optical Lattice Clocks
with T. Ebisuzaki , H. Katori , A. Noda , J. Makino , and T. Tamagawa
International J. of Modern Physics D 28 (2019) 1940002 [arXiv:1809.10317],
`https://doi.org/10.1142/S0218271819400029`

47. First cryogenic test operation of underground km-scale gravitational-wave observatory KAGRA
KAGRA collaboration
Class. Quant. Grav. 36 (2019) 165008 [arXiv:1901.03569],
`https://doi.org/10.1088/1361-6382/ab28a9`

48. Comparison of various methods to extract ringdown frequency from gravitational wave data
with H. Nakano , T. Narikawa, K. Oohara, K. Sakai, H. Takahashi, T. Tanaka,

N. Uchikata, S. Yamamoto, and T. S. Yamamoto
Physical Review D 99 (2019) 124032 [arXiv:1811.06443],
https://doi.org/10.1103/PhysRevD.99.124032

49. Test of general relativity by a pair of transportable optical lattice clocks
with M. Takamoto, I. Ushijima, N. Ohmae, T. Yahagi, K. Kokado, and H. Katori
Nature Photonics 14 (2020) 411
https://doi.org/10.1038/s41566-020-0619-8

50. Application of the independent component analysis to the iKAGRA data
KAGRA collaboration
Prog. Theor. Exp. Phys. 2020 (2020), 053F01
https://doi.org/10.1093/ptep/ptaa056

51. Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA
LIGO-Virgo-KAGRA collaboration
Living Reviews in Relativity 23 (2020) 3 [arXiv:1304.0670]
https://link.springer.com/article/10.1007/s41114-020-00026-9

52. Overview of KAGRA : KAGRA science
KAGRA collaboration
Prog. Theor. Exp. Phys. 2021(2021) 05A103 [arXiv:2008.02921]
https://doi.org/10.1093/ptep/ptaa120

53. Overview of KAGRA : Detector design and construction history
KAGRA collaboration
Prog. Theor. Exp. Phys. 2021(2021)05A101 [arXiv:2005.05574]
https://doi.org/10.1093/ptep/ptaa125

54. Current status of space gravitational wave antenna DECIGO and B-DECIGO
DECIGO collaboration
Prog. Theor. Exp. Phys. 2021(2021)05A105 [arXiv:2006.13545]
https://doi.org/10.1093/ptep/ptab019

55. Overview of KAGRA : Calibration, detector characterization, physical environmental monitors, and the geophysics interferometer
KAGRA collaboration
Prog. Theor. Exp. Phys. 2021(2021) 05A102 [arXiv:2009.09345]
https://doi.org/10.1093/ptep/ptab018

56. Vibration isolation systems for the beam splitter and signal recycling mirrors of the KAGRA gravitational wave detector
KAGRA collaboration
Class. Quant. Grav. 38 (2021) 065011
https://iopscience.iop.org/article/10.1088/1361-6382/abd922

57. Gravitational-wave physics and astronomy in the 2020s and 2030s
M. Bailes, B. K. Berger, P. R. Brady, M. Branchesi, K. Danzmann, M. Evans, K. Holley-Bockelmann, B. R. Iyer, T. Kajita, S. Katsanevas, M. Kramer, A. Lazzarini, L. Lehner, G. Losurdo, H. Lueck, D. E. McClelland, M. A. McLaughlin, M. Punturo, S. Ransom, S. Raychaudhury, D. H. Reitze, F. Ricci, S. Rowan, Y.

Saito, G. H. Sanders, B. S. Sathyaprakash, B. F. Schutz, A. Sesana, H. Shinkai, X. Siemens, D. H. Shoemaker, J. Thorpe, J. F. J. van den Brand, and S. Vitale
Nature Reviews Physics vol. 3, pages 344–366 (2021) ;
DOI: `https://doi.org/10.1038/s42254-021-00303-8`

58. Diving below the spin-down limit: Constraints on gravitational waves from the energetic young pulsar PSR J0537-6910
LIGO-Virgo-KAGRA collaboration
Astrophysical J. Lett. 913 L27 (2021) [arXiv:2012.12926];
DOI: `https://doi.org/10.3847/2041-8213/abffcd`

59. Constraints on cosmic strings using data from the third Advanced LIGO-Virgo observing run
LIGO-Virgo-KAGRA collaboration
Physical Review Lett. 126, 241102 (2021) [arXiv:2101.12248];
DOI: `https://doi.org/10.1103/PhysRevLett.126.241102`

60. Upper Limits on the Isotropic Gravitational-Wave Background from Advanced LIGO's and Advanced Virgo's Third Observing Run
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 022004 (2021) [arXiv:2101.12130];
DOI: `https://doi.org/10.1103/PhysRevD.104.022004`

61. Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO's and Advanced Virgo's first three observing runs
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 022005 (2021) [arXiv:2103.08520];
DOI: `https://doi.org/10.1103/PhysRevD.104.022005`

62. Observation of Gravitational Waves from Two Neutron Star – Black Hole Coalescences
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Lett. 915 L5 (2021);
DOI: `https://doi.org/10.3847/2041-8213/ac082e`

63. Constraints from LIGO O3 data on gravitational-wave emission due to r-modes in the glitching pulsar PSR J0537-6910
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 922 71 (2021) [arXiv:2104.14417];
DOI: `https://doi.org/10.3847/1538-4357/ac0d52`

64. Searches for continuous gravitational waves from young supernova remnants in the early third observing run of Advanced LIGO and Virgo
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 921(2021) 80 [arXiv:2105.11641];
DOI: `https://doi.org/10.3847/1538-4357/ac17ea`

65. Constraints on dark photon dark matter using data from LIGO's and Virgo's third observing run
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 063030 [arXiv:2105.13085];
DOI: `https://doi.org/10.1103/PhysRevD.105.063030`

66. Search for intermediate mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo

LIGO-Virgo-KAGRA collaboration
Astron. & Astrophys. 659 (2022) A84 [arXiv:2105.15120];
DOI: `https://doi.org/10.1051/0004-6361/202141452`

67. All-sky Search for Continuous Gravitational Waves from Isolated Neutron Stars in the Early O3 LIGO Data
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 082004 (2021) [arXiv: 2107.00600];
DOI: `https://doi.org/10.1103/PhysRevD.104.082004`

68. All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 102001 (2021) [arXiv:2107.13796];
DOI: `https://doi.org/10.1103/PhysRevD.104.102001`

69. All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 122004 (2021) [arXiv: 2107.03701] ;
DOI: `https://doi.org/10.1103/PhysRevD.104.122004`

70. All-sky, all-frequency directional search for persistent gravitational-waves from Advanced LIGO's and Advanced Virgo's first three observing runs
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 122001 [arXiv:2110.09834];
DOI: `https://doi.org/10.1103/PhysRevD.105.122001`

71. Search for continuous gravitational waves from 20 accreting millisecond X-ray pulsars in O3 LIGO data
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 022002 [arXiv:2109.09255];
DOI: `https://doi.org/10.1103/PhysRevD.105.022002`

72. Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift During the LIGO-Virgo Run O3b
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 928 (2022) 186 [arXiv:2111.03608] ;
DOI: `https://doi.org/10.3847/1538-4357/ac532b`

73. The population of merging compact binaries inferred using gravitational waves through GWTC-3
LIGO-Virgo-KAGRA collaboration
Phys. Rev. X 13, 011048 (2023) [arXiv: 2111.03634] ;
DOI: `https://doi.org/10.1103/PhysRevX.13.011048`

74. Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 935 (2022) 1 [arXiv:2111.13106] ;
DOI: `https://doi.org/10.3847/1538-4357/ac6acf`

75. All-sky search for gravitational wave emission from scalar boson clouds around spinning black holes in LIGO O3 data
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 102001 [arXiv:2111.15507];
DOI: `https://doi.org/10.1103/PhysRevD.105.102001`

76. Tests of General Relativity with GWTC-3
LIGO-Virgo-KAGRA collaboration
accepted by PRD [arXiv: 2112.06861]

77. Narrowband searches for continuous and long-duration transient gravitational waves from known pulsars in the LIGO-Virgo third observing run
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 932 (2022) 133; [arXiv: 2112.10990]
DOI: `https://doi.org/10.3847/1538-4357/ac6ad0`

78. Constraints on the cosmic expansion history from the third LIGO-Virgo-KAGRA Gravitational-Wave Transient Catalog
LIGO-Virgo-KAGRA collaboration
ApJ. 949, 76 (2023) [arXiv: 2111.03604] ;
DOI: `https://doi.org/10.3847/1538-4357/ac74bb`

79. GWTC-3: Compact Binary Coalescences Observed by LIGO and Virgo During the Second Part of the Third Observing Run
LIGO-Virgo-KAGRA collaboration
Phys. Rev. X 13, 041039 (2023) [arXiv:2111.03606] ;
DOI: `https://doi.org/10.1103/PhysRevX.13.041039`

80. All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data
LIGO-Virgo-KAGRA collaboration
Physical Review D 106 (2022) 102008 [arXiv:2201.00697] ;
DOI: `https://doi.org/10.1103/PhysRevD.106.102008`

81. Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data
LIGO-Virgo-KAGRA collaboration
Physical Review D 106 (2022) 062002 [arXiv: 2201.10104];
DOI: `https://doi.org/10.1103/PhysRevD.106.062002`

82. First joint observation by the underground gravitational-wave detector, KAGRA, with GEO600
LIGO-Virgo-KAGRA collaboration
Prog. Theor. Exp. Phys. 2022, 063F01(2022) [arXiv:2203.01270] ;
DOI: `https://doi.org/10.1093/ptep/ptac073`

83. The Current Status and Future Prospects of KAGRA, the Large-Scale Cryogenic Gravitational Wave Telescope Built in the Kamioka Underground
KAGRA collaboration
Galaxies 10, 10 (2022);
DOI: `https://doi.org/10.3390/galaxies10030063`

84. Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data

LIGO-Virgo-KAGRA collaboration
Physical Review D 106 (2022) 042003 [arXiv: 2204.04523];
DOI: https://doi.org/10.1103/PhysRevD.106.042003

85. Model-based cross-correlation search for gravitational waves from the low-mass X-ray binary Scorpius X-1 in LIGO O3 data
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Letter 941, L30 (2022) [arXiv:2209.02863] ;
DOI: https://doi.org/10.3847/2041-8213/aca1b0

86. Performance of the KAGRA detector during the first joint observation with GEO 600 (O3GK)
KAGRA collaboration
Prog. Theor. Exp. Phys., 2023, 10A101 (2023) ;
DOI: https://doi.org/10.1093/ptep/ptac093

87. Search for gravitational waves associated with Fast Radio Bursts Detected by CHIME/FRB During the LIGO-Virgo Observing Run O3a
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 955, 155 (2023) [arXiv:2203.12038] ;
DOI: https://doi.org/10.3847/1538-4357/acd770

88. Noise Subtraction from KAGRA O3GK Data using Independent Component Analysis
KAGRA collaboration
Class. Quantum Grav. 40 085015 (2023) [arXiv:2206.05785];
DOI: https://doi.org/10.1088/1361-6382/acc0cb

89. Search for subsolar-mass black hole binaries in the second part of Advanced LIGO and Virgo's third observing run
LIGO-Virgo-KAGRA collaboration
MNRAS 524, 5984 (2023) [arXiv:2212.01477] ;
DOI: https://doi.org/10.1093/mnras/stad588

90. Open data from the third observing run of LIGO, Virgo, KAGRA and GEO
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Supp. 267, 29 (2023) [arXiv:2302.03676] ;
DOI: https://doi.org/10.3847/1538-4365/acdc9f

91. Input optics systems of the KAGRA detector during O3GK
KAGRA collaboration
Prog. Theor. Exp. Phys. 2023, 023F01 (2023);
DOI https://doi.org/10.1093/ptep/ptac166

92. Overview of KAGRA: Data Transfer and Management
KAGRA collaboration
Prog. Theor. Exp. Phys. 2023, 10A102 (2023) ;
DOI: https://doi.org/10.1093/ptep/ptad112

93. A Joint Fermi-GBM and Swift-BAT Analysis of Gravitational-Wave Events from the GWTC-3 Catalog
Fermi-GBM, Swift-BAT, LSC, Virgo and KAGRA collaboration
Astrophys. J. 964, 149 (2024) [arXiv:2308.13666] ;
DOI: https://doi.org/10.3847/1538-4357/ad1eed

94. Search for gravitational-wave transients associated with magnetar bursts in Advanced LIGO and Advanced Virgo data from the third observing run
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 966, 137 (2024) [arXiv:2210.10931];
DOI: `https://doi.org/10.3847/1538-4357/ad27d3`

95. Search for gravitational-lensing signatures in the full third observing run of the LIGO-Virgo network
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 970, 191 (2024) [arXiv:2304.08393];
DOI: `https://doi.org/10.3847/1538-4357/ad3e83`

96. Ultralight vector dark matter search using data from the KAGRA O3GK run
LIGO-Virgo-KAGRA collaboration
Phys. Rev. D 110, 042001 (2024) [arXiv:2403.03004];
DOI: `https://doi.org/10.1103/PhysRevD.110.042001`

97. Observation of Gravitational Waves from the Coalescence of a 2.5-4.5 M_sun Compact Object and a Neutron Star
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Lett. 970, L34 (2024) [arXiv:2404.04248];
DOI: `https://doi.org/10.3847/2041-8213/ad5beb`

Submitted articles

1. Search for Eccentric Black Hole Coalescences During the Third Observing Run of LIGO and Virgo
LIGO-Virgo-KAGRA collaboration
Accepted by ApJ [arXiv:2308.03822]

2. Swift-BAT GUANO follow-up of gravitational-wave triggers in the third LIGO-Virgo-KAGRA observing run
LIGO-Virgo-KAGRA collaboration
Submitted to ApJ [arXiv:2407.12867]

Review Articles

1. Re-formulating the Einstein equations for stable numerical simulations: Formulation Problem in Numerical Relativity
with G. Yoneda
For a part of the book *Recent Progress in Astronomy and Astrophysics* (Nova Science Publ., New York, 2004), available as gr-qc/0209111

2. 数値相対論における定式化問題 一般相対論における数値シミュレーションを安定化させる指針の探求
with 米田元
「応用数理」日本応用数理学会学会誌， vol.15, No.1 (2005 年 3 月)，p2-15

3. 重力波の直接検出とデータ解析
システム制御情報学会誌 ， vol.62, No.9 (2018 年 9 月)，p370-375

Lectureships

1. Introduction to Numerical Relativity
   Four-hour invited lecture at Asia-Pacific Center for Theoretical Physics *Winter School on Gravitation and Cosmology* (Ewha Womans University, Seoul, Korea, January, 2003)
   Lecture note is available at `http://www.oit.ac.jp/is/~shinkai/lecture/winterAPCTP/`

2. Formulation Problem in Numerical Relativity
   Two-hour invited lecture at Asia-Pacific Center for Theoretical Physics (APCTP) *Winter School on Black Hole Astrophysics 2008* (Korea Astronomy & Space Science Institute (KASI), Daejeon, Korea, January, 2008)
   Lecture note is available at `http://www.oit.ac.jp/is//~shinkai/lecture/winterAPCTP/`

3. Numerical Approaches in General Relativity (in Japanese)
   Two-days invited lecture at Kinki University, Osaka, Japan
   Lecture note is available at
   `http://www.oit.ac.jp/is/~shinkai/lecture/seminar2011_KinkiU`

4. Why and How we know there are blackholes Introduction to Einstein's theory
   International Science School 2016, August 6, 2016, at Yokosuka Research Park
   Lecture note is available at
   `http://www.oit.ac.jp/is/~shinkai/201608school/`

Plenary/Invited talks at International Conferences

1. Post-Newtonian neutron star binary initial data for numerical relativity
   Initial data for black hole binary, Invited talk [Berlin, June 1999]

2. Re-formulate the Einstein equations for stable numerical simulations
   The 12th Workshop on General Relativity and Gravitation, [Tokyo Univ., Nov. 2002] (Proceedings, p137-151)

3. Introduction to Numerical Relativity
   Four-hour invited lecture at Asia-Pacific Center for Theoretical Physics *Winter School on Gravitation and Cosmology* (Ewha Womans University, Seoul, Korea, January, 2003)

4. Controlling constraints in general relativity
   (invited talk at Minisymposia, "Numerical Methods for PDEs with Cosntraints")
   The 5th International Congress on Industrial and Applied Mathematics [Sydney, Australia, July 2003]

5. Formulation Problem in Numerical Relativity
   Two-hour invited lecture at Asia-Pacific Center for Theoretical Physics (APCTP) *Winter School on Black Hole Astrophysics 2008* (Korea Astronomy & Space Science Institute (KASI), Daejeon, Korea, January, 2008)

6. Wormhole dynamics
   The workshop on theories and possibilities of observations of wormholes, [Rikkyo U., Japan, October 2012]

7. Status of KAGRA
   H. Shinkai on behalf of the KAGRA collaboration
   The LIGO-Virgo collaboration meeting, [Lake Geneva, Wisconsin, US, March 2019]

8. Latest status of KAGRA
   H. Shinkai on behalf of the KAGRA collaboration
   22nd International Conference on General Relativity and Gravitation & 13th Edoardo Amaldi Conference on Gravitational Waves, [Valencia, Spain, July 2019]

9. Status of KAGRA
   H. Shinkai on behalf of the KAGRA collaboration
   The LIGO-Virgo collaboration meeting, [Warsaw, Poland, September 2019]

10. Status of KAGRA
    H. Shinkai on behalf of the KAGRA collaboration
    The LIGO-Virgo-KAGRA collaboration meeting, [Wisconsin, US, March 2020] (online meeting)

11. Status of KAGRA
    H. Shinkai on behalf of the KAGRA collaboration
    The LIGO-Virgo-KAGRA collaboration meeting, [September 2020] (online meeting)

12. Introduction to KAGRA
    H. Shinkai on behalf of the KAGRA collaboration
    The 7th KAGRA International Workshop, [Taiwan, December 2020] (online meeting)

13. Gravitational wave and test of general relativity
    H. Shinkai
    The 7th Korea-Japan Workshop on Dark Energy: Maeda's Universe, [Korea, December 2020] (online meeting)

14. Gravitational Wave Physics & Astronomy, Status of KAGRA
    H. Shinkai
    Cosmology from Home, [July 2021] (online lecture)

15. LIGO-Virgo-KAGRA network for hunting gravitational waves
    H. Shinkai
    The 30th Workshop on General Relativity and Gravitation in Japan (JGRG30), [December 2021] (online meeting)

Presentations at International Conferences / Workshops

1. Gravitational waves in expanding Universes with cosmological constant
   H. Shinkai and K. Maeda
   The Waseda Symposium on *Quantum Physics and the Universe*, (Pergamon Press Ltd, 1993, Vistas in Astronomy, 37, p.449)

2. Cosmic no hair conjecture in a planar universe
   H. Shinkai and K. Maeda
   The Yamada Conference on *Evolution of the Universe and its Observational Quest*, (Universal Academy Press, 1994, The Proceedings ed. by K.Sato, p.533)

3. Inflation in a planar universe
   H. Shinkai and K. Maeda
   The 7th Marcel Grossmann Meeting on *General Relativity* [Stanford Univ., August 1994] (World Scientific, 1997, should be published)

4. Numerical relativity using Ashtekar formulation
   H. Shinkai and G. Yoneda
   The 14th International Conference on General Relativity and Gravitation [Florence, August 1995]

5. Dynamics of topological defects near the Planck scale
   N. Sakai, H. Shinkai, T. Tachizawa and K. Maeda
   The 14th International Conference on General Relativity and Gravitation [Florence, August 1995]

6. Weyl scalar Ψ_i in 3+1 numerical spacetime
   H. Shinkai
   The 7th Gregynog Workshop on Numerical Relativity, [Gregynog, August 1995]

7. Dynamics in the Ashtekar gravity
   H. Shinkai and G. Yoneda
   The 18th Texas Symposium on Relativistic Astrophysics, [Chicago, December 1996]

8. On reality conditions for Ashtekar variables and a trick of passing a degenerate point
   A. Nakamichi, G. Yoneda and H. Shinkai
   The 18th Texas Symposium on Relativistic Astrophysics, [Chicago, December 1996]

9. Can we detect Brans-Dicke scalar gravitational waves in gravitational collapse?
   H. Shinkai, M. Saijo and K. Maeda
   The 18th Texas Symposium on Relativistic Astrophysics, [Chicago, December 1996] (World Scientific, 1998, p619)

10. Lorentzian dynamics in Ashtekar gravity
    H. Shinkai and G. Yoneda
    The 8th Marcel Grossmann Meeting, [Jerusalem, June 1997] (ed. by Tsvi Piran, World Scientific, 1999, p774), gr-qc/9710074

11. Newtonian and post-Newtonian binary neutron star mergers
    H. Shinkai, W-M. Suen, F.D. Swesty, M. Tobias, E.Y.M. Wang, and C. Will
    The 8th Marcel Grossmann Meeting, [Jerusalem, June 1997] (ed. by Tsvi Piran, World Scientific, 1999, p771), gr-qc/9710073

12. Dynamical evolution of boson stars
    H. Shinkai, J. Balakrishna, G.L. Comer, E. Seidel and W-M. Suen
    The Numerical Astrophysics 98 [Tokyo, March 1998] (Kluwer Academic, 1999, p289)

13. Hyperbolic systems in the Ashtekar formulation – asymptotically stable and real-valued system as its application
    H. Shinkai and G. Yoneda
    Physics of strong gravitational fields, poster [UCSB, June 1999]

14. Post-Newtonian initial data approach for neutron star binary problem
    H. Shinkai, W-M. Suen and C.M. Will
    YKIS99 Black Holes and Gravitatational Waves, poster [Kyoto, June 1999]

15. Hyperbolic formulations and numerical relativity
    H. Shinkai and G. Yoneda
    The 9th Marcel Grossmann Meeting, [Rome, July 2000] (Proceedings, p 1717-1718 (eds by V.G. Gurzadyan, R.T. Jantzen, R. Ruffini, World Scientific, 2003))

16. Will hyperbolic formulations help numerical relativity?
    H. Shinkai and G. Yoneda
    The 10th Workshop on General Relativity and Gravitation, [Osaka, September 2000] (Proceedings, p.80-86)

17. Quasi-spherical approximation for rotating black holes
    H. Shinkai and S. Hayward
    Workshop on Astrophysical Sources for Ground-Based Gravitational Wave Detectors, poster [Drexel Univ. Philadelphia, 2000 October]

18. Quasi-spherical approximation for rotating black holes
    H. Shinkai and S.A. Hayward
    The 16th International Conference on General Relativity and Gravitation [South Africa, July 2001]

19. Cosnstraint propagation in the family of ADM systems
    H. Shinkai and G. Yoneda
    The 16th International Conference on General Relativity and Gravitation [South Africa, July 2001]

20. Adjusted Systems – adding constraints in RHS
    H. Shinkai
    Workshop on Numerical Relativity 2002 [South Africa, July 2001]

21. Adjusted ADM systems and their expected stability properties
H. Shinkai and G. Yoneda
The 11th Workshop on General Relativity and Gravitation, [Waseda Univ., January 2002] (Proceedings, p223-227)

22. Systematic understanding of asymptotical stability via constraint propagation analysis — Proposals of Adjusted ADM Systems and Adjusted BSSN Systems —
H. Shinkai (60 min talk)
Formulations of Einstein Equations for Numerical Relativity [Mexico City, May 2002]

23. Re-formulations of Einstein equations for stable numerical simulations
H. Shinkai (15 min talk)
International Conference on Theoretical Physics [Paris, UNESCO July 2002]

24. Controlling constraints in free evolution systems
H. Shinkai (30 min talk)
Gravitation: A Decennial Perspective, [Penn State Univ., June 2003]

25. Gravitational Waves from merging intermmediate-mass black-holes
H. Shinkai, T. Matsubayashi and T. Ebisuzaki (poster)
Stellar-Mass, Intermediate-Mass, and Supermassive Black Holes, [Kyoto, October 2003]

26. Constraint propagation analysis and adjusted systems
H. Shinkai and G. Yoneda
Numerical Relativity: Formulation Problem II, [Mexico, December 2003]

27. Formulation Problem of Numerical Relativity
G. Yoneda and H. Shinkai
Tenth International Conference on Hyperbolic Problems [Osaka, September 2004]

28. Constraint propagation revisited (poster)
H. Shinkai and G. Yoneda
The 16th Workshop on General Relativity and Gravitation, [Niigata, November 2006]

29. Controlling constraint violation using adjusted ADM systems (poster)
H. Shinkai and G. Yoneda
The 18th International Conference on General Relativity and Gravitation, [Sydney, July 2007]

30. Controlling constraint violations in numerical relativity (poster)
H. Shinkai and G. Yoneda
The 8th Asia-Pacific International Conference on Gravitation and Astrophysics, [Nara, Japan, August 2007]

31. Application of adjusted BSSN systems to Apples-with-Apples tests (poster)
K. Kiuchi and H. Shinkai
The 8th Asia-Pacific International Conference on Gravitation and Astrophysics, [Nara, Japan, August 2007]

32. Application of adjusted BSSN systems to Apples-with-Apples tests (poster)
K. Kiuchi and H. Shinkai
The 8th Asia-Pacific International Conference on Gravitation and Astrophysics, [Nara, Japan, August 2007]

33. N+1 formalism in Einstein-Gauss-Bonnet gravity (poster)
H. Shinkai and T. Torii
The 17th Workshop on General Relativity and Gravitation (JGRG17), [Nagoya, Japan, December 2007]

34. Towards the dynamics in Einstein-Gauss-Bonnet gravity: Initial Value Problem (poster)
H. Shinkai and T. Torii
The 18th Workshop on General Relativity and Gravitation (JGRG18) , [Hiroshima, Japan, December 2008]

35. Apparent Horizon Formation in Five-dimensional Spacetime (poster)
    Y. Yamada and H. Shinkai
    The 18th Workshop on General Relativity and Gravitation (JGRG18) , [Hiroshima, Japan, December 2008]

36. Constraint Propagation of C^2-adjusted Equations – Another Recipe for Robust Evolution Systems –(poster)
    T. Tsuchiya, G. Yoneda and H. Shinkai
    The 19th Workshop on General Relativity and Gravitation (JGRG19) , [Tokyo, Japan, December 2009]

37. Black Objects and Hoop Conjectue in Five-dimensional Space-time (poster)
    Y. Yamada and H. Shinkai
    The 19th Workshop on General Relativity and Gravitation (JGRG19) , [Tokyo, Japan, December 2009]

38. Black Objects and Hoop Conjectue in Five-dimensional Space-time
    H. Shinkai and Y. Yamada
    The 19th International Conference on General Relativity and Gravitation, [Mexico City, Mexico, July 2010]

39. Constraint Propagation of C^2-adjusted Equations — Another Recipe for Robust Evolution Systems — (poster)
    H. Shinkai, T. Tsuchiya and Y. Yamada
    The 19th International Conference on General Relativity and Gravitation, [Mexico City, Mexico, July 2010]

40. Gravitational Collapse in Five-dimensional Space-time (poster)
    Y. Yamada and H. Shinkai
    The 20th Workshop on General Relativity and Gravitation (JGRG20) , [Kyoto, Japan, September 2010]

41. Gravitational Collapse in Five-dimensional Space-time (poster)
    Y. Yamada and H. Shinkai
    The 2010 Cosmo/CosPA International Workshop (Cosmo/CosPA 2010) , [Tokyo, Japan, September 2010]

42. Gravitational Collapse in Five-dimensional Space-time (25min talk)
    H. Shinkai
    The 2011 Shanghai Asia-Pacific school on Gravitation, [Shanghai, China, February 2011]
    Int. J. Mod. Phys. Conf. Ser. 7 (2012) pp. 148-157

43. Gravitational collapse of ring objects in five-dimensional space-time (poster)
    Y. Yamada and H. Shinkai
    The 21th Workshop on General Relativity and Gravitation (JGRG21) , [Tohoku U., Japan, September 2011]

44. Constraint propagation and constraint-damping in the C2-adjusted formulation
    T. Tsuchiya, G. Yoneda and H. Shinkai
    The 21th Workshop on General Relativity and Gravitation (JGRG21) , [Tohoku U., Japan, September 2011]

45. Numerical Study of 5-dimensional Gravitational Collapses
    Y. Yamada and H. Shinkai
    The 13th Marcel Grossmann Meeting, [Stockholm, Sweden, July 2012]

46. Wormhole dynamics in Gauss-Bonnet gravity (poster)
    H. Shinkai and T. Torii
    RESCEU Symposium on General Relativity and Gravitation (JGRG22), [Tokyo U., Japan, November 2012]

47. Wormhole evolutions in higher-dimensional gravity –Effects of Gauss-Bonnet gravity terms (poster)
H. Shinkai and T. Torii
The 20th International Conference on General Relativity and Gravitation (GR20), [Warsaw, Poland, July 2013]

48. Gravitational collapse of ring objects in five-dimensional space-time (poster)
Y. Yamada and H. Shinkai
The 23th Workshop on General Relativity and Gravitation (JGRG23), [Hirosaki U., Japan, November 2013]

49. Wormhole dynamics in Gauss-Bonnet gravity (poster)
H. Shinkai and T. Torii
The 23th Workshop on General Relativity and Gravitation (JGRG23), [Hirosaki U., Japan, November 2013]

50. Wormhole dynamics
H. Shinkai and T. Torii
International Conference on Mathematical Modeling in Physical Sciences [Madrid, Spain, August 2014]. conference paper J. Phys.: Conf. Ser. 574 (2015) 012056.

51. Wormhole dynamics in higher-dimensional space-time
H. Shinkai and T. Torii
Spanish Relativity Meeting 2014 [Valencia, Spain, September 2014]. conference paper J. Phys.: Conf. Ser. 600 (2015) 012038.

52. Wormhole dynamics in higher-dimensional space-time (poster)
H. Shinkai and T. Torii
JGRG24: The 24rd Workshop on General Relativity and Gravitation in Japan [IMPU, Tokyo Univ., November 2014]

53. Dynamics in n-dimensional Gauss-Bonnet gravity: I. Colliding Scalar Waves, II. Wormhole evolutions (poster)
H. Shinkai and T. Torii
General Relativity and Gravitation: A Centennial Perspective [Penn State, USA, June 2015]

54. Can we distinguish formation models of a super-massive black-hole? (poster)
H. Shinkai, T. Ebisuzaki, and N. Kanda
Gravitational Wave Physics and Astronomy Workshop (GWPAW) 2015 [Osaka, Japan, June 2015]

55. Singularity formation in n-dimensional Gauss-Bonnet gravity (poster)
H. Shinkai and T. Torii
JGRG25: The 25th Workshop on General Relativity and Gravitation in Japan [YITP, Kyoto Univ., December 2015]

56. Formation Scenario of SMBH and Gravitational Wave
H. Shinkai, N. Kanda and T. Ebisuzaki
The First International Meeting on KAGRA [KAIST, Daejeon, Korea, June 2016]

57. Gravitational waves from merging intermediate-mass black-holes (poster)
H. Shinkai, N. Kanda and T. Ebisuzaki
JGRG26: The 26th Workshop on General Relativity and Gravitation in Japan [Osaka City Univ., October 2016]

58. Singularity Avoidance of Gauss-Bonnet gravity (poster)
T. Torii and H. Shinkai
JGRG26: The 26th Workshop on General Relativity and Gravitation in Japan [Osaka City Univ., October 2016]

59. Event Rates of Gravitational Waves from merging Intermediate mass Black Holes: based on a Runaway Path to a SMBH
H. Shinkai and T. Ebisuzaki
The 13th International Conference on Gravitation, Astrophysics, and Cosmology (ICGAC-XIII) [Seoul, Korea, July 2017]
EPJ Web of Conferences 168, 05002 (2018)

60. Colliding scalar pulses in the Einstein-Gauss-Bonnet gravity
H. Shinkai and T. Torii
The 13th International Conference on Gravitation, Astrophysics, and Cosmology (ICGAC-XIII) [Seoul, Korea, July 2017]
EPJ Web of Conferences 168, 04014 (2018)

61. Event rates of gravitational waves in space-borne detectors based on a hierarchical growth model of SMBHs (poster)
H. Shinkai and T. Ebisuzaki
JGRG27: The 27th Workshop on General Relativity and Gravitation in Japan [Hiroshima, November 2017]

62. Gravitational-wave data analysis using Auto-Regressive model (poster)
S. Yamamoto and H. Shinkai
JGRG27: The 27th Workshop on General Relativity and Gravitation in Japan [Hiroshima, November 2017]

63. Intermediate-mass black holes as sources of gravitational waves (poster)
H. Shinkai
International Symposium on Cosmology and Particle Astrophysics (CosPA 2017) [Kyoto Univ., December 2017]

64. Autoregressive Approach to Extract Ring-down Gravitational Wave of Black-hole Merger (poster)
H. Shinkai
The 4th KAGRA International Workshop, [Seoul, Korea, June 2018]

65. Nonlinear Dynamics in the Einstein-Gauss-Bonnet gravity
H. Shinkai and T. Torii
MG15: Fifteenth Marcel Grossmann Meeting [Rome, Italy, July 2018]

66. Autoregressive Approach to Extract Ring-down Gravitational Wave of Black-hole Merger
H. Shinkai
MG15: Fifteenth Marcel Grossmann Meeting [Rome, Italy, July 2018]

67. Gravitational-wave detector using optical lattice clocks in space
H. Shinkai with T. Ebisuzaki, H. Katori, J. Makino, T. Tamagawa and A.Noda
MG15: Fifteenth Marcel Grossmann Meeting [Rome, Italy, July 2018]

68. INO: Interplanetary Network of Optical Lattice Clocks (poster)
H. Shinkai
JGRG28: The 28th Workshop on General Relativity and Gravitation in Japan [Rikkyo U., November 2018]

69. Comparison of various methods to extract ringdown frequency from gravitational wave data (poster)
H. Shinkai, with H. Nakano , T. Narikawa, K. Oohara, K. Sakai, H. Takahashi, T. Tanaka, N. Uchikata, S. Yamamoto, T. S. Yamamoto
GR22 & Amaldi13: 22nd International Conference on General Relativity and Gravitation & 13th Edoardo Amaldi Conference on Gravitational Waves, [Valencia, Spain, July 2019]

70. Ring-down GW wave search using Auto-Regressive model (poster)
H. Shinkai
YITP long-term workshop "Multi-Messenger Astrophysics in the Gravitational Wave Era" [YITP, Kyoto U, October 2019]

71. Ring-down waveform extraction by Auto-Regressive approach (poster)
H. Shinkai
Gravitational Wave Physics and Astronomy Workshop [RESCEU, U. Tokyo, October 2019]

72. Auto-regressive approach to find ring-down gravitational wave (poster)
H. Shinkai
JGRG29: The 29th Workshop on General Relativity and Gravitation in Japan [Kobe U., November 2019]

73. Ringdown Mode Search using Auto-Regressive method (poster)
H. Shinkai
GR23: 23rd International Conference on General Relativity and Gravitation [online, July 2022]

74. A new method for extracting gravitational wave: Black-hole ringdown mode search using Auto-Regressive method (poster)
H. Shinkai
IAU General Assembly [Busan, Korea, August 2022]

Presentations at Domestic Workshops

1. Gravitational waves in a planar universe with cosmological constant
H. Shinkai and K. Maeda, 「相対論と重力」研究会, 東京都立大学, 1991 年 12 月

2. Colliding Plane Gravitational Waves
真貝寿明 前田恵一, 「第２回 重力波天文学シンポジウム」, 熱海, 1992 年 11 月

3. 平面重力波の衝突に対する宇宙項の影響
真貝寿明 前田恵一, 「第５回 理論天文学懇談会シンポジウム」, 東京都立大学, 1992 年 12 月

4. Finding principal null directions for numerical relativists
H. Shinkai, L. Gunnersen and K. Maeda, 「第３回 相対論と重力」研究会, 東京大学, 1994 年 1 月

5. Numerical relativity with help of Ashtekar's formulation
H. Shinkai and G. Yoneda, 「第４回 相対論と重力」研究会, 京都大学, 1994 年 11 月

6. Numerical Analysis of Topological inflation
N. Sakai, H. Shinkai, T. Tachizawa, K. Maeda, 「第４回 相対論と重力」研究会, 京都大学, 1994 年 11 月

7. 平面重力波の衝突における Faraday 効果
真貝寿明, 「第７回 理論天文学懇談会シンポジウム」研究会, 国立天文台, 1994 年 12 月

8. Dynamics in the Ashtekar gravity
H. Shinkai, G. Yoneda and A. Nakamichi, 「第５回 相対論と重力」研究会，名古屋大学, 1996 年 1 月

9. A trick for passing degenerate points in Ashtekar formulation
A. Nakamichi, G. Yoneda and H. Shinkai,「第６回 相対論と重力」研究会，東京工業大学, 1996 年 12 月

10. Towards a numerical evolution using post-Newtonian initial data
H. Shinkai, The 2nd Neutron Star Grand Challenge Meeting, at Washington University, May. 1997

11. Boson Stars in Scalar-Tensor theories
H. Shinkai, G.L. Comer and J. Balakrishna, The 7th Midwest Relativity Conference, [Washington University, Nov. 1997]

12. Constructing hyperbolic systems in the Ashtekar formulation of general relativity
G. Yoneda and H. Shinkai, 「第８回 相対論と重力」研究会,, 新潟大学, 1998 年 10 月

13. Hyperbolic and asymptotically constrained system in the Ashtekar formulation of general relativity
G. Yoneda and H. Shinkai, 「第９回 相対論と重力」研究会，広島大学, 1999 年 10 月

14. Hyperbolic formulations and numerical relativity: experiments using Ashtekar's connection variables
H. Shinkai, The 4th Eastern Gravity Meeting, Duquesne University, 2000 年 4 月

15. Asymptotically constrained systems for numerical relativity
真貝寿明, 「第 14 回 理論天文学懇談会シンポジウム」研究会, 大阪大学, 2001 年 12 月

16. 数値相対論：定式化に関する問題
真貝寿明, 「重力波研究の発展と将来」研究会、京都、2002 年 2 月

17. 安定な数値シミュレーションを行うための Einstein 方程式の定式化とその検証
真貝寿明, 「第 15 回 理論天文学懇談会シンポジウム」研究会, 天文台, 2002 年 12 月

18. 数値相対論における定式化問題：数値計算報告
真貝寿明, 「重力波物理学」研究会、京都、2003 年 1 月

19. 中間質量ブラックホールからの重力波
真貝寿明, 「第 2 回 DECIGO 重力波観測衛星計画」研究会、国立天文台、2003 年 5 月

20. Constraint propagation revisited
真貝寿明, 米田元，第 19 回理論天文学・宇宙物理学懇談会，立教大学，2006 年 12 月

21. 5 次元時間対称時空の数値解
山田祐太，真貝寿明,「第 10 回時空特異点」研究会，高エネルギー加速器研究機構，2009 年 1 月

22. ブラックオブジェクトの数値解析
山田祐太，真貝寿明,「第 3 回高次元ブラックホール研究最前線」研究会，京都大学，2009 年 12 月

23. 5 次元ブラックリングとフープ仮説
山田祐太，真貝寿明，第 24 回理論懇シンポジウム，国立天文台，2011 年 11 月

24. Gravitational collapse in five-dimensional space-time
山田祐太，真貝寿明，The 2nd AICS International Symposium，理化学研究所神戸，2012 年 3 月

25. Wormholes in higher-dimensional gravity: Effects of Gauss-Bonnet gravity
真貝寿明，鳥居隆，第 26 回理論懇シンポジウム 「2020 年代を見据えた理論宇宙物理・天文学」，東京大学，2013 年 12 月

26. 麻田剛立とケプラーの惑星運動の第３法則
真貝寿明，第 15 回天文文化研究会，大阪工業大学，2016 年 9 月

27. Introduction to Sparse Modeling
H. Shinkai
Innovative Area Research 'Gravitational wave physics and astronomy: Genesis' [Shiga, Jan. 2020]

28. 志筑忠雄が取り組んだケイルの物理学書の位置づけ
真貝寿明，第 19 回天文文化研究会，大阪工業大学，2021 年 7 月

29. （招待講演）重力波観測の現状とこれから
真貝寿明「富岳で加速する素粒子・原子核・宇宙・惑星」シンポジウム，online，2021 年 1 月

30. （招待講演）重力波観測の現状とこれから
真貝寿明「富岳で加速する素粒子・原子核・宇宙・惑星」シンポジウム，online，2021 年 1 月

31. 明治はじめの窮理熱と『滑稽窮理　臍の西國』
真貝寿明，第 21 回天文文化研究会，大阪工業大学，2021 年 7 月

32. Identifying Ringdown Modes of GWTC-3 events using Auto-Regressive method
Symposium on Gravitational wave physics and astronomy: Genesis, Kyoto Univ.[April 2022]

33. 古世界地図に添えられた天文図の由来
真貝寿明，第 24 回天文文化研究会，大阪工業大学，2023 年 1 月

Presentations at the Official Society Meetings

1. 面対称１次元非一様時空の進化
真貝寿明 前田恵一，日本物理学会，横浜，1992 年 3 月

2. 宇宙項を伴う膨張時空における重力波
真貝寿明 前田恵一，日本天文学会，大阪，1992 年 5 月

3. 宇宙項を伴う膨張時空における重力波
真貝寿明 前田恵一，日本物理学会，新潟，1992 年 10 月

4. 面対称時空における宇宙無毛仮説
真貝寿明 前田恵一，日本物理学会，仙台，1993 年 3 月

5. 面対称時空におけるインフレーションの一般性
真貝寿明 前田恵一，日本天文学会，相模原，1993 年 5 月

6. Principal Null Directions for Numerical Relativists
真貝寿明 L.Gunnarsen 前田恵一，日本天文学会，鹿児島，1993 年 10 月

7. 球対称非一様スカラー場の初期値問題
真貝寿明 千葉剛 中尾憲一 中村卓史，日本物理学会，福岡，1994 年 3 月

8. Topological Inflation の数値解析
真貝寿明 坂井伸之 立沢尚史 前田恵一，日本物理学会， 山形，1994 年 9 月

9. 平面重力波の衝突における Faraday 効果
真貝寿明，日本天文学会，小金井，1995 年 3 月

10. Ashtekar 変数を使う数値相対論の構成方法
米田元 真貝寿明，日本物理学会，横浜，1995 年 3 月

11. Ashtekar 形式における一般相対論の拘束条件と実数条件
真貝寿明 米田元，日本物理学会，名古屋，1995 年 10 月

12. Ashtekar 変数を使う数値相対論
真貝寿明 米田元，日本物理学会，金沢，1996 年 4 月

13. Ashtekar 形式における特異点通過とは?
中道晶香 真貝寿明 米田元，日本物理学会，金沢，1996 年 4 月

14. Ashtekar 形式における Lorenzian Dynamics
真貝寿明 米田元，日本物理学会，佐賀，1996 年 10 月

15. Boson Stars in the Scalar-Tensor theories
真貝寿明 J. Balakrishna G.L. Comer，日本物理学会，千葉，1998 年 3 月

16. Constructing hyperbolic systems in the Ashtekar formulation of general relativity
H. Shinkai, G. Yoneda，アメリカ物理学会，Atlanta，1999 年 3 月

17. Post-Newtonian initial data formulation for NASA Grand Challenge Project
H. Shinkai, M. Miller, W-M. Suen, M. Tobias, C.M. Will，アメリカ物理学会，Atlanta，1999 年 3 月

18. Hyperbolic systems of general relativity in the Ashtekar formulation
米田元 真貝寿明 ，日本物理学会，島根，1999 年 10 月

19. Constraint propagation of the Einstein equations
米田元 真貝寿明 ，日本物理学会，中央大学, 2001 年 3 月

20. Quasi-spherical approximation for numerical relativity
真貝寿明 S.A. Hayward，日本物理学会，中央大学, 2001 年 3 月

21. 安定な数値シミュレーションを行うための Einstein 方程式の定式化
真貝寿明 米田元，日本物理学会，立命館大学, 2002 年 3 月

22. 安定な数値シミュレーションを行うための Einstein 方程式の定式化 II
米田元 真貝寿明 ，日本物理学会，立教大学, 2002 年 9 月

23. Fate of the traversible wormholes
真貝寿明 S.A. Hayward ，日本物理学会，立教大学, 2002 年 9 月

24. 安定な数値シミュレーションを行うための Einstein 方程式の定式化 III
真貝寿明 米田元，日本物理学会，東北学院大学, 2003 年 3 月

25. 中質量ブラックホールの合体で生じる重力波の頻度
松林達史 真貝寿明 戎崎俊一，日本天文学会，愛媛大学, 2003 年 9 月

26. Stable numerical simulations via adjusted ADM systems
真貝寿明 米田元，日本物理学会，首都大学東京, 2007 年 3 月

27. Stable numerical simulations via adjusted BSSN systems
木内健太 真貝寿明，日本物理学会，北海道大学, 2007 年 9 月

28. 5 次元時空におけるブラックホールの形成条件とフープ仮説
山田祐太 真貝寿明，日本物理学会，甲南大学, 2009 年 9 月

29. Numerical analysis of black-ring in 5-dimensional space-time
山田祐太 真貝寿明，日本物理学会，岡山大学, 2010 年 3 月

30. Constraint propagation of C^2-adjusted BSSN Equations
土屋拓也 米田元 真貝寿明，日本応用数理学会，明治大学, 2010 年 9 月

31. Numerical analysis of black-ring in 5-dimensional space-time (II)
山田祐太 真貝寿明，日本物理学会，九州工業大学, 2010 年 9 月

32. Gravitational collapses and naked singularity in 5-dimensional space-time
山田祐太 真貝寿明，日本物理学会，新潟大学, 2011 年 3 月（開催中止）

33. Black ring and hoop conjecture
山田祐太 真貝寿明，日本物理学会，弘前大学, 2011 年 9 月

34. 5 次元重力崩壊：回転対称性と角運動量の効果
山田祐太 真貝寿明，日本物理学会，弘前大学, 2012 年 3 月

35. Wormhole dynamics in Gauss-Bonnet gravity
真貝寿明 鳥居隆，日本物理学会，広島大学, 2013 年 3 月

36. ワームホールの不安定性
真貝寿明 鳥居隆，日本天文学会，国際基督教大学，2014 年 3 月

37. 高次元ワームホールの安定性：線形摂動と時間発展数値解析
鳥居隆 真貝寿明，日本物理学会，東海大学，2014 年 3 月

38. 高次元ワームホールの安定性：宇宙項と Gauss-Bonnet 項の影響
鳥居隆 真貝寿明，日本物理学会，佐賀大学，2014 年 9 月

39. Topological wormholes and their stability
鳥居隆 真貝寿明，日本物理学会，早稲田大学，2015 年 3 月

40. Dynamics in n-dimensional Gauss-Bonnet gravity
真貝寿明 鳥居隆，日本物理学会，早稲田大学，2015 年 3 月

41. Dynamics in n-dimensional Gauss-Bonnet gravity II
真貝寿明 鳥居隆，日本物理学会，東北学院大学，2016 年 3 月

42. 重力波観測による巨大ブラックホール形成シナリオ解明の可能性
真貝寿明 神田展行 戎崎俊一，日本天文学会，愛媛大学，2016 年 9 月

43. 中間質量ブラックホール合体モデルと重力波観測
真貝寿明 戎崎俊一，日本物理学会，宇都宮大学，2017 年 9 月

44. 光格子時計を用いた重力波検出法の提案
真貝寿明 玉川徹 野田篤司 香取秀俊 牧野淳一郎 戎崎俊一，日本物理学会，東京理科大学，2018 年 3 月

45. 解答解説機能付き微積分ソルバの開発
大塚基広 平博順 真貝寿明，人工知能学会全国大会，2018 年 6 月

46. 自己回帰モデルを用いた重力波データ解析：ブラックホール合体のリングダウン波形の抽出
真貝寿明 山本峻，日本物理学会，信州大学，2018 年 9 月

47. 銀河中心ブラックホールの合体形成モデルと重力波観測
真貝寿明，日本天文学会，姫路県立大学，2018 年 9 月

48. 自己回帰モデルを用いた重力波データ解析 (2)：LIGO/Virgo O2 までのカタログデータの解析
真貝寿明，日本物理学会，山形大学，2019 年 9 月

49. 自己回帰モデルを用いた重力波データ解析:O3 a/b 連星ブラックホールイベントのリングダウン波形抽出
真貝寿明，日本物理学会，岡山理科大学，2022 年 9 月

50. 自己回帰モデルを用いた重力波データ解析: 連星ブラックホールイベントのリングダウン波形抽出による相対論の検証
真貝寿明，日本物理学会，オンライン，2023 年 3 月

以上の他，日本の重力波探査衛星 DECIGO 計画の研究メンバーとして，KAGRA 重力波干渉計の研究メンバーとして一連の発表がありますが省いています.

Refereed Articles in Japanese

1. Numerical Study of Cosmic No Hair Conjecture
   真貝寿明，塚本太郎，前田恵一
   Bulletin of the Centre for Informatics, Waseda University, Vol.17, p.1-12 (1994).

2. Can we determine the theory of gravity by observing gravitational waves?
   西條統之，真貝寿明，前田恵一
   Bulletin of the Centre for Informatics, Waseda University, Vol.21, p.21-34 (1997).

3. 数値相対論における定式化問題一般相対論における数値シミュレーションを安定化させる指針の探求
   真貝寿明　米田元
   『応用数理』日本応用数理学会学会誌，　vol.15, No.1 (2005 年 3 月)，p2-15

4. 古星図に見る歴史と文化　— 高松塚古墳に描かれた 28 星宿を示すアプリケーションの制作 —
   河津秀明　真貝寿明
   『天文教育』2008 年 5 月号掲載

5. ノーベル物理学賞受賞記念「展示と模擬実験」
   林正人　中西章　中野正浩　鳥居隆　明孝之　中村正彦　原田義之　藤元章　松岡和夫　小寺正敏　西浦宏幸　真貝寿明　田中東
   『大阪工業大学紀要』理工編 54 巻 (2009) 2 号 25-37
   Permalink : `https://oit.repo.nii.ac.jp/records/345`

6. 数独パズルの難易度判定 — 解法ロジックを用いた数値化の提案 —
   土出智也　真貝寿明
   『大阪工業大学紀要』理工編 56 巻 (2011) 1-18
   Permalink : `https://oit.repo.nii.ac.jp/records/301`

7. 麻田剛立とケプラーの惑星運動第 3 法則
   真貝寿明
   『大阪工業大学紀要』61 巻 (2016) 27-36
   Permalink : `https://oit.repo.nii.ac.jp/records/221`

8. 今年のノーベル物理学賞　脚注の多い解説
   真貝寿明
   『天文教育』2020 年 11 月号掲載

9. 「天文文化学」創設の試み （招待記事）
   真貝寿明，松浦清，米田達郎，横山恵理
   『天文月報』2021 年 9 月号 第 114 巻 第 9 号 p573-582

10. 翻刻『滑稽窮理臍の西國』
    真貝寿明
    『大阪工業大学紀要』 66 巻 (2021) p49-68
    Permalink : `https://oit.repo.nii.ac.jp/records/664`

11. 幕末から明治初期にかけての西洋物理学の受容：書誌対応を軸とする俯瞰
    真貝寿明
    『大阪工業大学紀要』 67 巻 (2022) p47-59
    Permalink : `https://oit.repo.nii.ac.jp/records/705`

12. 周縁副図から辿る世界地図の系譜 – 石塚崔高作『圓球萬國地海全圖』(1802) の原図を探る
    真貝寿明
    『大阪工業大学紀要』 68 巻 (2023) p1
    `https://doi.org/10.15046/0002000005`

13. 星図・星座図の系譜
    真貝寿明
    『大阪工業大学紀要』 69 巻 (2024) 掲載決定

0.1 教科書・専門書 Textbooks, Research Books

1. 『徹底攻略 微分積分』 (共立出版，2009 年)
   単著 ，244 pages，ISBN 978-4-320-01879-2
2. 『徹底攻略 常微分方程式』 (共立出版，2010 年)
   単著 ，248 pages，ISBN 978-4-320-01936-2
3. 『徹底攻略 確率統計』 (共立出版，2012 年)
   単著 ，280 pages，ISBN 978-4-320-11009-0
4. 『徹底攻略 微分積分　改訂版』 (共立出版，2013 年)
   単著 ，256 pages，ISBN 978-4-320-11060-1
5. 『日常の「なぜ」に答える物理学』 (森北出版，2015 年)
   単著 ，272 pages，ISBN 978-4-627-15611-1
6. 『現代物理学が描く宇宙論』 (共立出版，2018 年)
   単著 ，242 pages，ISBN 978-4-320-03605-5
7. LIGO, VIRGO, and KAGRA as the International Gravitational Wave Network
   Patrick Brady, Giovanni Losurdo, Hisaaki Shinkai
   Handbook of Gravitational Wave Astronomy (Springer, 2022) ISBN 978-981-15-4702-7, DOI `https://doi.org/10.1007/978-981-15-4702-7`
8. 『天文文化学序説：分野横断的にみる歴史と科学』 (思文閣出版，2022 年)
   共著　松浦 清 (著, 編集), 真貝 寿明 (著, 編集), 郷司泰仁， 石田 淳， 寺澤慎吾， 勝俣 隆， 西村昌能， 山下克明， 横山恵理， 米田達郎， 神羽麻紀， 鳥居 隆， 作花一志， 玉澤春史 (著) ，394 pages，ISBN 978-4784220205
9. 『すべての人の天文学』 (日本評論社，2022 年)
   共著　岡村 定矩 (著, 監修), 芝井 広 (著, 監修), 縣 秀彦 (著, 編集), 大山 真満 大朝 由美子, 工藤 哲洋, 佐藤 文衛, 谷口 義明, 真貝 寿明, 鴈野 重之, 西浦 慎悟 (著) ，224 pages，ISBN 978-4535789463
10. 『一歩進んだ物理の理解　1 力学・熱・波』 (朝倉書店，2023 年 11 月)
    共著　真貝 寿明，林正人，鳥居隆 (著) ，180 pages，ISBN 978-4-254-13821-4
11. 『一歩進んだ物理の理解　2　電磁気学・発展問題』 (朝倉書店，2023 年 11 月)
    共著　真貝 寿明，林正人，鳥居隆 (著) ，180 pages，ISBN 978-4-254-13822-1
12. 『一歩進んだ物理の理解　3　原子・相対性理論』 (朝倉書店，2023 年 11 月)
    共著　真貝 寿明，林正人，鳥居隆 (著) ，180 pages，ISBN 978-4-254-13823-8

0.2 一般向け書 Books (for general)

1. 『図解雑学 タイムマシンと時空の科学』 (ナツメ社，2011 年)
   単著 ，240 pages，ISBN 978-4-816-35025-2
2. 『ブラックホール・膨張宇宙・重力波 一般相対性理論の 100 年と展開』 (光文社，2015 年)
   単著 ，344 pages，ISBN 978-4-334-03877-9
3. 『宇宙検閲官仮説』 (講談社ブルーバックス，2023 年)
   単著 ，256 pages，ISBN 978-4-065-30995-7

0.3 事典など (Handbooks, Dictionaries)

1. 『先端科学事典』(丸善出版, 2002) 「数値相対論」「カーブラックホール」執筆
2. 『天文宇宙検定公式問題集《１級 天文宇宙博士》』 (天文宇宙検定委員会 編，恒星社厚生閣, 2012) 問題執筆
3. 『天文宇宙検定公式問題集《１級 天文宇宙博士》』 (天文宇宙検定委員会 編，恒星社厚生閣, 2014) 問題執筆
4. 『天文宇宙検定公式問題集《１級 天文宇宙博士》』 (天文宇宙検定委員会 編，恒星社厚生閣, 2016) 問題執筆
5. 『天文宇宙検定公式問題集《１級 天文宇宙博士》』 (天文宇宙検定委員会 編，恒星社厚生閣, 2018) 問題執筆
6. 『相対論と宇宙の事典』 (朝倉書店，2020 年，420 pages)
   安東正樹・白水徹也 編集幹事／浅田秀樹 ・石橋明浩・小林努・真貝寿明・早田次郎・谷口敬介 編 ISBN 978-4-254-13128-4
7. 『理科年表 2022』 (国立天文台編，丸善, 2021 年）
   「重力波」の項執筆（田中貴浩氏と共著）ISBN 978-4621306482
8. 『理科年表 2023』 (国立天文台編，丸善, 2022 年）
   「重力波」の項執筆（田中貴浩氏と共著）ISBN 978-4621307366
9. 『理科年表 2024』 (国立天文台編，丸善, 2023 年）
   「重力波」の項執筆（田中貴浩氏と共著）ISBN ???

0.4 翻訳記事，翻訳書 Translations

1. 『宇宙における生命』（NTT 出版，1993 年）
   S.W.Hawking, Life in the Universe
   佐藤勝彦監訳　降旗康彦，真貝寿明，坂井伸之訳
2. コンピュータが明らかにするブラックホールの姿
   P.Anninos, J.Masso, E.Seidel and W-M.Suen (Physics World, 1996 July, p43)
   『パリティ』（丸善） 1997 年 6 月号
3. 『宇宙のつくり方』（丸善，2016 年 12 月）
   Ben Gilliland, How to build a Universe (2015)
   真貝寿明，鳥居隆訳
   ISBN 978-4-621-30050-3
4. 『演習　相対性理論・重力理論』（森北出版，2019 年 12 月）
   Alan P. Lightman, William H. Press, Richard H. Price, Saul A. Teukolsky, Problem Book in Relativity and Gravitation
   真貝寿明，鳥居隆訳
   ISBN 978-4-627-15641-8
5. 『ロヴェッリ　一般相対性理論』（森北出版，2023 年 8 月）
   Carlo Rovelli、General Relativity (2021)
   真貝寿明訳
   ISBN　978-4-627-17071-1

0.5 雑誌解説記事など Articles in Popular Magazines

1. ワームホールは通過可能か？　最近のワームホール研究から
   単著　『パリティ』（丸善） 2003 年 5 月号 (裏表紙も)

2. 質量とエネルギー　相対論の視点から
   単著　『数理科学』（サイエンス社）2003 年 12 月号

3. テンソル計算ソフトウェア　リーマンテンソルが一瞬で計算できる
   単著　『数理科学』（サイエンス社）2015 年 7 月号

4. 人類が初めて観測した「重力波」を、アインシュタインは 100 年前に予言していた
   単著　『講談社クーリエジャポン電子版』　解説記事　2016 年 3 月

5. 大学初年次における科学力と高大接続　科学リテラシーテストの結果報告
   『学術の動向』（日本学術会議編集協力，日本学術協力財団発行）2017 年 1 月号

6. 光格子時計による重力波検出
   共著（玉川徹，真貝寿明，野田篤司，香取秀俊，牧野淳一郎，戎崎俊一）『科学』（岩波書店）2017 年 12 月号

7. ブラックホールと重力波
   単著 『数理科学』（サイエンス社）2018 年 12 月号

8. ブラックホール理論とその周辺
   単著 『現代思想』（青土社）2019 年 8 月号

9. 2020 年ノーベル物理学賞受賞者解説 「ブラックホール」でまとめたノーベル物理学賞
   単著『web Ronza』(朝日新聞)2020 年 10 月 `https://webronza.asahi.com/science/articles/2020101000005.html`

10. 2020 年のノーベル物理学賞 –脚注の多い解説–
    『天文教育』2020 年 11 月号

11. 「天文文化学」創設の試み
    真貝寿明，松浦　清，米田達郎，横山恵理
    『天文月報』2021 年 9 月号

0.6 書評，エッセイなど　Book Reviews, Essays

1. シリーズ　海外の研究室事情 (16) ペンシルバニア州立大学　重力と幾何学センター
   『天文月報』（日本天文学会）2001 年 4 月号

2. 書評短評「宇宙と素粒子 30 講」（戸田盛和著，朝倉書店，2002）
   『日本物理学会誌』 2002 年 11 月号

3. 書評小特集「物理入門書の紹介」第 2 回「計算機から導く物理の教材」
   真貝寿明　山内淳 『日本物理学会誌』 2003 年 9 月号

4. 書評「パソコンで宇宙物理学　計算宇宙物理学入門」（ポール・ヘリングス著，川端潔訳，国書刊行会，2009）『日本物理学会誌』 2009 年 11 月号

5. 書評「科学をどう教えるか；アメリカにおける新しい物理教育の実践」（E. F. Redish 著，日本物理教育学会監訳，丸善，2012）『日本物理学会誌』 2013 年 5 月号

6. 予想通りで驚いた　重力波初観測の報道に接して
   『窮理』（窮理社） 第 4 号　2016 年 7 月

7. そば打ちを習う
   『季刊　新そば』 No.167　（北白川書店）2020 年 9 月

8. 滑稽窮理 臍の西国 – 明治初頭の啓蒙書ブームと増山守正
   『窮理』21 号 2022 年 4 月

0.7 インタビュー (interviewed)

1. 映画『LOOPER/ルーパー』 の配給元から、コメントを求められたので回答。web 掲載 2012 年 12 月
2. 雑誌『R25』「映画マイティ・ソーに出てくるワームホール」解説 2013 年 6 月
3. 雑誌『子供の科学』特集「科学の謎　未解決ファイル」子供達の謎第 1 位タイムマシン　インタビュー 2014 年 10 月
4. 電子マガジン『Synodos.jp』「生き残っていく理論が物理となる—宇宙と相対性理論の最前線」2015 年 11 月
5. 劇団 SET「虹を渡る男たち」公演パンフレット掲載「スペシャル対談 真貝寿明 vs 三宅裕司 人類悲願の夢。タイムマシンに「どこでもドア」、実現するのはどっち!?」2015 年 11 月
6. 雑誌『子供の科学』特集「時間とは何か」　インタビュー　2017 年 6 月
7. Web メディア　ほとんど 0 円大学　『研究者の質問バトン（１）：タイムマシンって本当に作れるの？』2020 年 9 月

0.8 編集協力 (editorial contributions)

1. 『ニュートン』2011 年 11 月号 「光速の壁がやぶられた!? ニュートリノは本当に超光速なのか」
2. 『ニュートン』2012 年 3 月号「タイムトラベルを科学する 」
3. ニュートン別冊 『相対性理論とタイムトラベル　キップ・ソーン博士が語る時空旅行』 2012 年 5 月刊
4. ニュートン別冊 『光速 C』 2012 年 6 月刊
5. 『ペン＋』（藤子 F 不二夫　特集号）「タイムトラベル論 誌上講義」2012 年 9 月号
6. 映画「LOOPER/ルーパー」 コメント　2012 年 12 月
7. R25　コメント　2013 年 6 月
8. ニュートン別冊『あらゆる単位と重要原理・法則集』 2014 年 3 月刊
9. ニュートン別冊 『時間とは何か　増補第 3 版』2016 年 7 月刊
10. 『ニュートン』2017 年 7 月号　「相対性理論再入門　双子のパラドックス」
11. Newton ムック,『時間とは何か 新装版』2018 年 10 月
12. Newton ムック,『単位と法則 新装版』2018 年 10 月
13. Newton ライト,『法則の事典』2019 年 5 月
14. 『日経ビジネス』2020 年 3 月 23 日号　「人類の歴史的発明が証明 世界を変えた“変わり者”たち」
15. 『日経ビジネス』2020 年 3 月 23 日号　「ワープ航法、タイムマシン……数十億年後の人類のため」
16. Newton 別冊『時間とは何か 改訂第 2 版』 2020 年 7 月
17. Newton 別冊『単位と法則 大百科』 2020 年 8 月
18. Web メディア　ほとんど 0 円大学『研究者の質問バトン（１）：タイムマシンって本当に作れるの？』2020 年 9 月
19. Newton ムック『ゼロからわかる相対性理論　改訂第２版』 2021 年 1 月

20. 『ニュートン』2021 年 8 月号「タイムトラベル映画を科学する」
21. Newton ライト 2.0『法則の事典』2021 年 6 月
22. フレーベル館しぜん 2021 年 11 月号　特集『うごく』 指導　（中国語翻訳版 2024）
23. 『ニュートン』2022 年 7 月号「SF 映画をもっと楽しもう!」
24. Newton 別冊ムック『時間とは何か 改訂第 3 版』 編集協力，2022 年 8 月
25. Newton 別冊ムック『単位と法則 大百科　改訂第 2 版』 2022 年 8 月
26. Newton 別冊ムック『相対性理論』 2023 年 2 月
27. 『ニュートン』2023 年 5 月号「ワームホール研究 最前線　“時空の虫食い穴”が量子論と相対論を結びつける」
28. TBS ドラマ 『不適切にもほどがある！』(2024 年)　タイムマシン資料監修

0.9　新聞へのコメント (newspaper)

1. 毎日新聞　科学欄「相対性理論って何?」コメント掲載，2011 年 10 月 25 日朝刊
2. 東京新聞　コメント掲載（重力波初検出に関して），2016 年 2 月 12 日朝刊
3. 毎日新聞　コメント掲載（重力波初検出に関して），2016 年 2 月 13 日朝刊
4. 毎日新聞　科学欄「ブラックホールの実像に迫る」コメント掲載，2016 年 3 月 24 日朝刊
5. 読売新聞　科学医療欄「アインシュタインのノーベル賞受賞 100 年」コメント掲載，2021 年 8 月 13 日朝刊
6. 読売新聞　科学医療欄「こぼれ話」コメント掲載，2021 年 8 月 27 日朝刊

0.10　講演（一般向け）Lectures (for general)

1. 「一般相対性理論の世界　ブラックホール・ワームホール・ビッグバン宇宙」
   西はりま天文台　天文講演会，2006 年 12 月
2. 「タイムマシンはできるのか　相対性理論入門」
   兵庫県立大学皆既日食観測アカデミックツーリズム　サイエンストーク，2009 年 7 月
3. 「相対論研究のテーマ探し」
   天文天体物理若手夏の学校 (草津)，2009 年 7 月
4. 「時空の科学　タイムマシンの可能性」
   ラジオ NIKKEI 第 2（RN2）「Groovin' x Groovin'」番組，2014 年 1 月
5. 「相対性理論の世界　タイムマシンの可能性」
   東海高校・中学校，サタデープログラム，2014 年 2 月
6. 「皆既月食　解説」
   あべのハルカス展望台， Ustream 中継．2014 年 10 月
7. 「皆既月食　解説」
   あべのハルカス展望台， 2015 年 4 月
8. 「日常は物理で満ちている」
   西宮市 宮水学園 マスター講座（全 10 回），2015 年 5 月–9 月
9. 「私が教科書執筆に込めたポイント」
   日本天文学会 (首都大学東京)，天文教育フォーラム「教科書：読む・読ませる・書く」招待講演　2016 年 3 月

10. 「重力波の初観測」
JAHOU 年会 2016 (科学技術館) ，2016 年 3 月

11. 「アインシュタインが予言して 100 年，ついにとらえた重力波」科学技術館，科学ライブショー「ユニバース」重力波検出記念特別番組，2016 年 5 月

12. 「宇宙はここまで理解された　宇宙物理学入門」
西宮市生涯学習ラジオ講座 全 10 回．2016 年 6 月-3 月

13. 「私が教科書執筆で心がけたこと」
摂南大学第 1 回数理セミナー　数理教育の教材開発に関する討論会 2016 年 7 月

14. 「ブラックホールはどう見える？」
近鉄あべのハルカス本店宇宙博 2016，特別セミナー，2016 年 8 月

15. 「大学初年次における科学力と高大接続」
サイエンスアゴラ 2016： シンポジウム 『これからの高校理科教育のありかた』． 2016 年 11 月

16. 天文学最前線『重力波　直接観測の意義と展望』
天文教育普及研究会 2017 年年会　 2017 年 8 月

17. 「重力波観測は物理学から天文学へ」
科学技術館 科学ライブショー「ユニバース」ノーベル賞受賞特別番組　2017 年 11 月 (Youtube, ニコニコ動画中継)

18. 人類の夢の技術「タイムマシンは実現するのか!?」
NHK サイエンス ZERO，2017 年 11 月

19. 「Why and How we know there are blackholes」
International School of Science Summer School ，2016 年 8 月

20. 「重力波　直接観測の意義と展望」
第 31 回天文教育研究会，2017 年 8 月

21. 「こんなところに物理学」
西宮市生涯学習大学宮水学園せいかつ講座，2018 年 6 月

22. 『宇宙をひもとく物理学』 全 6 回講座
毎日文化センター（梅田），2018 年 10 月-2019 年 3 月

23. 『宇宙はどこまで解明されたか』 全 6 回講座
毎日文化センター（梅田），2019 年 4 月-2019 年 9 月

24. 「ブラックホールを観る　ブラックホールを聴く」
電気三学会（電気学会、電子情報通信学会、映像情報メディア学会）「准員および学生員のための講演会」，2019 年 12 月

25. 「天文と文化の交流　日本に西洋物理学を紹介した蘭学者たち」
奈良シニア大学 一般教養講座，2020 年 10 月

26. 「アインシュタインはどこまで正しい？　検証が進む相対性理論」
西宮市宮水学園ラジオ版教養講座，2020 年 12 月

27. 「惑星探査と太陽系外惑星探査：地球外生命体は見つかるか？」
奈良シニア大学 一般教養講座，2021 年 2 月

28. 「最近の宇宙研究の進展」
サークルすばる，2021 年 3 月

29. 「相対性理論におけるパラドックス」
西宮市宮水学園サイエンスコース 2021 年 12 月

30. 「100 歳を超えた相対性理論」
大阪市立科学館×大阪市中央公会堂『99 年目のアインシュタイン』2021 年 12 月

31. 「ブラックホールと重力波」
西宮市宮水学園サイエンスコース 2022 年 1 月

32. 「ブラックホールって何？　物理学者の考えるブラックホールと，天文学者の扱うブラックホール」
朝日カルチャーセンター西新宿教室 2022 年 1 月

33. 「重力波観測からわかったこと，わからないこと」
花山星空ネットワーク講演会 2022 年 6 月

34. 「月のトリヴィア – 知っていると少し楽しいこと」
皆既月食観望会，あべのハルカス 2022 年 11 月

35. 「相対性理論と量子論：アインシュタインの成功と失敗」
大阪市立科学館×大阪市中央公会堂『100 年目のアインシュタイン』2022 年 12 月

36. 「宇宙はどこまで解明されたか」
関西で星を学ぶ会 2023 年 5 月

37. 「物理と時間　伸び縮みする時間」
朝日カルチャーセンター　中之島教室，2023 年 8 月

38. 「相対性理論 $E = mc^2$ がわかった人からお休みなさい」
NHK 朝までラーニング　2023 年 8 月

39. 「重力波観測は物理学から天文学へ」
日本スペースガード協会関西支部公開講演会，2024 年 1 月

40. 「ノーベル物理学賞の対象となった理論と観測・実験」
早稲田大学エクステンションセンター　4 回講座，2024 年 2 月

0.11　講演（高校生向けなど）Lectures (for students)

1. 「理系という職業選択」栄光学園高校，2009 年 11 月

2. 「相対性理論の世界」東海高校・中学校，サタデープログラム講演，2014 年 2 月

3. 「ブラックホール」常翔学園高校，2014 年 11 月

4. 日本天文学会 (大阪大学)　ジュニアセッション座長　2015 年 3 月

5. Why and How we know there are blackholes Introduction to Einstein's theory
International Science School 2016, August 6, 2016, at Yokosuka Research Park
Lecture note is available at
`http://www.oit.ac.jp/is/shinkai/201608school/`

6. 「アインシュタインが 16 歳のときに考えていたこと」
枚方市立枚方公園青少年センター夏休み教室，2018 年 7 月

7. 「ブラックホールを観る　ブラックホールを聴く」
舞鶴高専ジュニアドクター講座，2019 年 12 月

8. 「アインシュタインはどこまで正しい? 検証が進む相対性理論」
第 11 回高校生天文活動発表会　　2021 年 7 月

9. 「理論物理学を仕事にする 一般相対性理論 (ブラックホール・重力波) 研究の現場から」栄光学園高校，2023 年 10 月

10. 「ブラックホールを観る　ブラックホールを聴く　身近な物理現象と最先端の物理研究」
枚方市立枚方公園青少年センター夏休み教室，2024 年 7 月

External Links

ORCID	https://orcid.org/0000-0003-1082-2844
ResearcherID	http://www.researcherid.com/rid/S-6590-2016
Scopus	https://www.scopus.com/authid/detail.uri?authorId=7103415263
Google Scholar	https://scholar.google.co.jp/citations?user=zxwrmYQAAAAJ
SPIRES	http://inspirehep.net/search?ln=ja&p=find+a+shinkai\%2C+h
arXiv	https://arxiv.org/find/gr-qc/1/au:+Shinkai_H/0/1/0/all/0/1
CiNii	http://ci.nii.ac.jp/openurl/query?rft.au=真貝寿明
Web of Science	https://www.webofscience.com/wos/author/record/1654739

updated, August 24, 2024

References

[1] Bistability in an Ising model with non-Hamiltonian dynamics
J.R.Heringa, H.Shinkai, H.W.J.Blöte, A.Hoogland and R.K.P.Zia, Physical Review **B 45** (1992) 5707-5709

[2] Can gravitational waves prevent inflation?
H. Shinkai and K. Maeda, Physical Review **D 48** (1993) 3910-3913

[3] Generality of inflation in a planar universe
H. Shinkai and K. Maeda, Physical Review **D 49** (1994) 6367-6378

[4] A '3+1' method for finding principal null directions
L. Gunnarsen, H. Shinkai and K. Maeda, Class. Quantum Grav. **12** (1995) 133-140

[5] Dynamics of topological defects and inflation
N. Sakai, H. Shinkai, T. Tachizawa and K. Maeda, Physical Review **D 53** (1996) 655-661

[6] Constraints and reality conditions in the Ashtekar formulation of general relativity
G.Yoneda and H.Shinkai, Class. Quantum Grav. **13** (1996) 783-790

[7] Gravitational waves in Brans-Dicke Theory : analysis by test particles around a Kerr black hole
M. Saijo, H. Shinkai and K. Maeda, Physical Review **D 56** (1997) 785-797

[8] Tric for passing degenerate metrics in the Ashtekar formulation
G. Yoneda, H. Shinkai and A. Nakamichi, Physical Review **D 56** (1997) 2086-2093

[9] Generation of scalar-tensor gravity effects in equilibrium state boson stars
G.L. Comer and H. Shinkai, Class. Quantum Grav. **15** (1998) 669-688

[10] Dynamical evolution of boson stars in Brans-Dicke theory
J. Balakrishna and H. Shinkai, Physical Review **D 58** (1998) 044016 (13 pages)

[11] Symmetric Hyperbolic System in the Ashtekar formulation
G. Yoneda and H. Shinkai, Physical Review Letter **82** (1999) 263-266

[12] Truncated post-Newtonian Neutron Star Model
H. Shinkai, Physical Review **D 60** (1999) 067504 (4 pages)

[13] Asymptotically constrained and real-valued system based on Ashtekar's variables
H. Shinkai and G. Yoneda, Physical Review **D 60** (1999) 101502 (Rapid Commnication, 5 pages)

[14] Constructing hyperbolic systems in the Ashtekar formulation of general relativity
G. Yoneda and H. Shinkai, Int. J. Mod. Phys. **D9** (2000) 13-34

[15] Fate of the Kaluza-Klein bubble
H. Shinkai and T. Shiromizu, Physical Review **D62** (2000) 024010 (8 pages)

[16] Hyperbolic formulations and numerical relativity: Experiments using Ashtekar's connection variables
H. Shinkai and G. Yoneda, Class. Quantum Grav. **17** (2000) 4799-4822

[17] Hyperbolic formulations and numerical relativity II: Asymptotically constrained systems of the Einstein equations
G. Yoneda and H. Shinkai, Class. Quantum Grav. **18** (2001) 441-462

[18] Charged brane-world black holes
A. Chamblin, H. S. Reall, H. Shinkai and T. Shiromizu, Physical Review **D 63** (2001) 064015 (11 pages)

[19] Constraint propagation in the family of ADM systems
G. Yoneda and H. Shinkai, Physical Review **D 63** (2001) 124019 (9 pages)

[20] Quasi-spherical approximation for rotating black holes
H. Shinkai and S.A. Hayward, Physical Review **D 64** (2001) 044002 (8 pages)

[21] Adjusted ADM systems and their expected stability properties: constraint propagation analysis in Schwarzschild spacetime
H. Shinkai and G. Yoneda, Class. Quantum Grav. **19** (2002) 1027-1049

[22] Fate of the first traversible wormhole: black-hole collapse or inflationary expansion
H. Shinkai and S.A. Hayward, Physical Review D **66** (2002) 044005 (9 pages)

[23] Advantages of modified ADM formulation: constraint propagation analysis of Baumgarte-Shapiro-Shibata-Nakamura system
G. Yoneda and H. Shinkai, Physical Review **D 66** (2002) 124003 (10 pages)

[24] Diagonalizability of constraint propagation matrix
G. Yoneda and H. Shinkai, Class. Quantum Grav. **20** (2003) L31-36 (Letter)

[25] Toward standard testbeds for numerical relativity
M. Alcubierre, G. Allen, C. Bona, D. Fiske, T. Goodale, F.S. Guzman, I. Hawke, S. Hawley, S. Husa, M. Koppitz, C. Lechner, D. Pollney, D. Rideout, E. Schnetter, E. Seidel, H. Shinkai, D. Shoemaker, B. Szilagyi, R. Takahashi, and J. Winicour
(Mexico Numerical Relativity Workshop 2002 Participants),
Class. Quantum Grav. **21** (2004) 589-613.

[26] Constraint propagation in $(N+1)$-dimensional space-time
H. Shinkai and G. Yoneda, Gen. Rel. Grav. **36** (2004) 1931-1937

[27] Gravitational radiation from mergers of intermediate-mass black-holes
T. Matsubayashi, H. Shinkai and T. Ebisuzaki, Astrophys. J. **614** (2004) 864-868

[28] Observation results by the TAMA300 detector on gravitational wave bursts from stellar-core collapses
TAMA collaboration
Physical Review D **71** (2005) 082002 (17 pages)

[29] Upper limits from the LIGO and TAMA detectors on the rate of gravitational-wave bursts
with LIGO Scientific Collaboration, TAMA Collaboration
Physical Review D **72** (2005) 122004 (16 pages)

[30] Joint LIGO and TAMA300 Search for Gravitational Waves from Inspiralling Neutron Star Binaries
LIGO Scientific Collaboration, TAMA Collaboration
Physical Review D **73** (2006) 102002 (10 pages)

[31] The Japanese space gravitational wave antenna: DECIGO
DECIGO collaboration
Class. Quantum Grav. **23** (2006) S125-S132

[32] Results of the search for inspiraling compact star binaries from TAMA300's observation in 2000-2004 TAMA Collaboration
Physical Review D **74** (2006) 122002 (8 pages)

[33] Numerical Experiments of adjusted BSSN systems for controlling constraint violations
with K. Kiuchi
Physical Review D **77** (2008) 044010 (11 pages)

[34] $N+1$ formalism in Einstein-Gauss-Bonnet gravity
with T. Torii
Physical Review D **78** (2008) 084037 (13 pages)

[35] Formulations of the Einstein equations for numerical simulations
Journal of Korean Physical Society **54** (2009) 2513-2528, [arXiv:0805.0068]

[36] Black Objects and Hoop Conjecture in Five-dimensional Space-time
with Y. Yamada
Class. Quantum Grav. 27 (2010) 045012 (15 pages)

[37] Formation of naked singularities in five-dimensional space-time
with Y. Yamada
Physical Review D 83 (2011) 064006 (5 pages)

[38] The Japanese space gravitational wave antenna: DECIGO
DECIGO collaboration
Class. Quantum Grav. **28** (2011) 094011 (12 pages)

[39] Constraint propagation of C^2-adjusted formulation – Another recipe for robust ADM evolution system –
with T. Tsuchiya and G. Yoneda
Physical Review D 83 (2011) 064032 (10 pages)

[40] Constraint propagation of C^2-adjusted formulation II – Another recipe for robust BSSN evolution system –
with T. Tsuchiya and G. Yoneda
Physical Review D 85 (2012) 044018 (12 pages)

[41] Wormholes in higher dimensional space-time: Exact solutions and their linear stability analysis
with T. Torii
Physical Review D **88** (2013) 064027 (6 pages)

[42] Gravitational waves from merging intermediate-mass black holes : II Event rates at ground-based detectors
with N. Kanda and T. Ebisuzaki
Astrophys. J. **835** (2017) 276 (8 pages)

[43] Nonlinear Dynamics in the Einstein-Gauss-Bonnet gravity
with T. Torii
Physical Review D **96** (2017) 044009 (14 pages)

[44] Construction of KAGRA: an Underground Gravitational Wave Observatory
KAGRA Collaboration
Prog. Theor. Exp. Phys. (2018) 013F01 [arXiv:1712.00148]

[45] KAGRA: 2.5 Generation Interferometric Gravitational Wave Detector
KAGRA collaboration
Nature Astronomy 3 (2019) 35 [arXiv:1811.08079]

[46] INO: Interplanetary Network of Optical Lattice Clocks
with T. Ebisuzaki , H. Katori , A. Noda , J. Makino , T. Tamagawa
Int. J. Mod. Phys. D (2019) 1940002 [arXiv:1809.10317]

[47] First cryogenic test operation of underground km-scale gravitational-wave observatory KAGRA
KAGRA collaboration
Class. Quant. Grav. 36 (2019) 165008
https://doi.org/10.1088/1361-6382/ab28a9

[48] Comparison of various methods to extract ringdown frequency from gravitational wave data
with H. Nakano , T. Narikawa, K. Oohara, K. Sakai, H. Takahashi, T. Tanaka, N. Uchikata, S. Yamamoto, T. S. Yamamoto
Physical Review D 99 (2019) 124032
https://doi.org/10.1103/PhysRevD.99.124032

[49] Test of general relativity by a pair of transportable optical lattice clocks
with M. Takamoto, I. Ushijima, N. Ohmae, T. Yahagi, K. Kokado, and H. Katori
Nature Photonics 14 (2020) 411
https://doi.org/10.1038/s41566-020-0619-8

[50] Application of the independent component analysis to the iKAGRA data
KAGRA collaboration
Prog. Theor. Exp. Phys. 2020 (2020) 053F01
https://doi.org/10.1093/ptep/ptaa056

[51] Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA
LIGO-Virgo-KAGRA collaboration
Living Reviews in Relativity 23 (2020) 3
https://link.springer.com/article/10.1007/s41114-020-00026-9

[52] Overview of KAGRA : KAGRA science
KAGRA collaboration
Prog. Theor. Exp. Phys. 2021, 05A103 (2021)
https://doi.org/10.1093/ptep/ptaa120

[53] Overview of KAGRA : Detector design and construction history
KAGRA collaboration
Prog. Theor. Exp. Phys. 2021, 05A101 (2021)
https://doi.org/10.1093/ptep/ptaa125

[54] Current status of space gravitational wave antenna DECIGO and B-DECIGO
DECIGO collaboration
Prog. Theor. Exp. Phys. 2021, 05A105 (2021)
https://doi.org/10.1093/ptep/ptab019

[55] Overview of KAGRA : Calibration, detector characterization, physical environmental monitors, and the geophysics interferometer
KAGRA collaboration
Prog. Theor. Exp. Phys. 2021, 05A102 (2021)
https://doi.org/10.1093/ptep/ptab018

[56] Gravitational-wave physics and astronomy in the 2020s and 2030s
KAGRA collaboration
Class. Quant. Grav. 38 (2021) 065011
https://iopscience.iop.org/article/10.1088/1361-6382/abd922

[57] Vibration isolation systems for the beam splitter and signal recycling mirrors of the KAGRA gravitational wave detector
M. Bailes, B. K. Berger, P. R. Brady, M. Branchesi, K. Danzmann, M. Evans, K. Holley-Bockelmann, B. R. Iyer, T. Kajita, S. Katsanevas, M. Kramer, A. Lazzarini, L. Lehner, G. Losurdo, H. Lueck, D. E. McClelland, M. A. McLaughlin, M. Punturo, S. Ransom, S. Raychaudhury, D. H. Reitze, F. Ricci, S. Rowan, Y. Saito, G. H. Sanders, B. S. Sathyaprakash, B. F. Schutz, A. Sesana, H. Shinkai, X. Siemens, D. H. Shoemaker, J. Thorpe, J. F. J. van den Brand, and S. Vitale
Nature Reviews Physics 3 (2021) pages 344–366 ;
https://doi.org/10.1038/s42254-021-00303-8

[58] Diving below the spin-down limit: Constraints on gravitational waves from the energetic young pulsar PSR J0537-6910
LIGO-Virgo-KAGRA collaboration
Astrophysical J. Lett. 913 (2021) L27 ;
https://doi.org/10.3847/2041-8213/abffcd

[59] Constraints on cosmic strings using data from the third Advanced LIGO-Virgo observing run
LIGO-Virgo-KAGRA collaboration

Physical Review Lett. 126 (2021) 241102;
https://doi.org/10.1103/PhysRevLett.126.241102

[60] Upper Limits on the Isotropic Gravitational-Wave Background from Advanced LIGO's and Advanced Virgo's Third Observing Run
LIGO-Virgo-KAGRA collaboration
Physical Review D 104 (2021) 022004;
https://doi.org/10.1103/PhysRevD.104.022004

[61] Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO's and Advanced Virgo's first three observing runs
LIGO-Virgo-KAGRA collaboration
Physical Review D 104 (2021) 022005 ;
https://doi.org/10.1103/PhysRevD.104.022005

[62] Observation of Gravitational Waves from Two Neutron Star – Black Hole Coalescences
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Lett. 915 (2021) L5 ;
https://doi.org/10.3847/2041-8213/ac082e

[63] Constraints from LIGO O3 data on gravitational-wave emission due to r-modes in the glitching pulsar PSR J0537-6910
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 922 (2021) 71 ;
https://doi.org/10.3847/1538-4357/ac0d52

[64] Searches for continuous gravitational waves from young supernova remnants in the early third observing run of Advanced LIGO and Virgo
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 921(2021) 80
DOI: https://doi.org/10.3847/1538-4357/ac17ea

[65] Constraints on dark photon dark matter using data from LIGO's and Virgo's third observing run
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 063030
DOI: https://doi.org/10.1103/PhysRevD.105.063030

[66] Search for intermediate mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo
LIGO-Virgo-KAGRA collaboration
Astron. & Astrophys. 659 (2022) A84
DOI: https://doi.org/10.1051/0004-6361/202141452

[67] All-sky Search for Continuous Gravitational Waves from Isolated Neutron Stars in the Early O3 LIGO Data
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 082004 (2021)
DOI: https://doi.org/10.1103/PhysRevD.104.082004

[68] All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 102001 (2021)
DOI: https://doi.org/10.1103/PhysRevD.104.102001

[69] All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run
LIGO-Virgo-KAGRA collaboration
Physical Review D 104, 122004 (2021)
DOI: https://doi.org/10.1103/PhysRevD.104.122004

[70] Search for continuous gravitational waves from 20 accreting millisecond X-ray pulsars in O3 LIGO data
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 022002
DOI: https://doi.org/10.1103/PhysRevD.105.022002

[71] All-sky, all-frequency directional search for persistent gravitational-waves from Advanced LIGO's and Advanced Virgo's first three observing runs
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 122001 ;
DOI: https://doi.org/10.1103/PhysRevD.105.122001

[72] Constraints on the cosmic expansion history from the third LIGO-Virgo-KAGRA Gravitational-Wave Transient Catalog
LIGO-Virgo-KAGRA collaboration
ApJ. 949, 76 (2023)
DOI: https://doi.org/10.3847/1538-4357/ac74bb

[73] GWTC-3: Compact Binary Coalescences Observed by LIGO and Virgo During the Second Part of the Third Observing Run
LIGO-Virgo-KAGRA collaboration
Phys. Rev. X 13, 041039 (2023) ;
DOI: https://doi.org/10.1103/PhysRevX.13.041039

[74] The population of merging compact binaries inferred using gravitational waves through GWTC-3
LIGO-Virgo-KAGRA collaboration
Phys. Rev. X 13, 011048 (2023) ;
DOI: https://doi.org/10.1103/PhysRevX.13.011048

[75] Tests of General Relativity with GWTC-3
LIGO-Virgo-KAGRA collaboration
accepted by PRD [arXiv: 2112.06861]

[76] Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift During the LIGO-Virgo Run O3b
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 928 (2022) 186 ;
DOI: https://doi.org/10.3847/1538-4357/ac532b

[77] Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 935 (2022) 1 ;
DOI: https://doi.org/10.3847/1538-4357/ac6acf

[78] All-sky search for gravitational wave emission from scalar boson clouds around spinning black holes in LIGO O3 data
LIGO-Virgo-KAGRA collaboration
Physical Review D 105 (2022) 102001 ;
DOI: https://doi.org/10.1103/PhysRevD.105.102001

[79] Narrowband searches for continuous and long-duration transient gravitational waves from known pulsars in the LIGO-Virgo third observing run
LIGO-Virgo-KAGRA collaboration
Astrophys. J. 932 (2022) 133;
DOI: https://doi.org/10.3847/1538-4357/ac6ad0

[80] All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data
LIGO-Virgo-KAGRA collaboration

Physical Review D 106 (2022) 102008;
DOI: https://doi.org/10.1103/PhysRevD.106.102008

[81] Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data
LIGO-Virgo-KAGRA collaboration
Physical Review D 106 (2022) 062002 ;
DOI: https://doi.org/10.1103/PhysRevD.106.062002

[82] First joint observation by the underground gravitational-wave detector, KAGRA, with GEO600
LIGO-Virgo-KAGRA collaboration
Progress of Theoretical and Experimental Physics, Volume 2022, 063F01;
DOI: https://doi.org/10.1093/ptep/ptac073

[83] Performance of the KAGRA detector during the first joint observation with GEO 600 (O3GK)
KAGRA collaboration
Progress of Theoretical and Experimental Physics, 2023, 10A101 (2023) ;
DOI: https://doi.org/10.1093/ptep/ptac093

[84] Search for gravitational waves associated with Fast Radio Bursts Detected by CHIME/FRB During the LIGO-Virgo Observing Run O3a
LIGO-Virgo-KAGRA collaboration
AstrophysJ 955, 155 (2023);
DOI: https://doi.org/10.3847/1538-4357/acd770

[85] The Current Status and Future Prospects of KAGRA, the Large-Scale Cryogenic Gravitational Wave Telescope Built in the Kamioka Underground
KAGRA collaboration
Galaxies 10, 10 (2022);
DOI: https://doi.org/10.3390/galaxies10030063

[86] Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data
LIGO-Virgo-KAGRA collaboration
Physical Review D 106 (2022) 042003 ;
DOI: https://doi.org/10.1103/PhysRevD.106.042003

[87] Noise Subtraction from KAGRA O3GK Data using Independent Component Analysis
KAGRA collaboration
Class. Quantum Grav. 40 085015 (2023) ;
DOI: https://doi.org/10.1088/1361-6382/acc0cb

[88] Model-based cross-correlation search for gravitational waves from the low-mass X-ray binary Scorpius X-1 in LIGO O3 data
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Letter 941, L30 (2022) ;
DOI: https://doi.org/10.3847/2041-8213/aca1b0

[89] Search for subsolar-mass black hole binaries in the second part of Advanced LIGO and Virgo's third observing run
LIGO-Virgo-KAGRA collaboration
MNRAS 524, 5984 (2023);
DOI: https://doi.org/10.1093/mnras/stad588

[90] Open data from the third observing run of LIGO, Virgo, KAGRA and GEO
LIGO-Virgo-KAGRA collaboration
Astrophys. J. Supp. 267, 29 (2023);
DOI: https://doi.org/10.3847/1538-4365/acdc9f

[91] Input optics systems of the KAGRA detector during O3GK
KAGRA COLLABORATION
Prog. Theor. Exp. Phys. 2023, 023F01 (2023);
DOI https://doi.org/10.1093/ptep/ptac166

[92] Overview of KAGRA: Data Transfer and Management
KAGRA COLLABORATION
Prog. Theor. Exp. Phys. 2023, 10A102 (2023) ;
DOI: https://doi.org/10.1093/ptep/ptad112

[93] A Joint Fermi-GBM and Swift-BAT Analysis of Gravitational-Wave Events from the GWTC-3 Catalog
FERMI-GBM, SWIFT-BAT, LSC, VIRGO AND KAGRA COLLABORATION
Astrophys. J. 964, 149 (2024) ;
DOI: https://doi.org/10.3847/1538-4357/ad1eed

[94] Search for gravitational-wave transients associated with magnetar bursts in Advanced LIGO and Advanced Virgo data from the third observing run
LIGO-VIRGO-KAGRA COLLABORATION
Astrophys. J. 966, 137 (2024) ;
DOI: https://doi.org/10.3847/1538-4357/ad27d3

[95] Search for gravitational-lensing signatures in the full third observing run of the LIGO-Virgo network
LIGO-VIRGO-KAGRA COLLABORATION
Astrophys. J. 970, 191 (2024) [arXiv:2304.08393];
DOI: https://doi.org/10.3847/1538-4357/ad3e83

[96] Ultralight vector dark matter search using data from the KAGRA O3GK run
LIGO-VIRGO-KAGRA COLLABORATION
Phys. Rev. D 110, 042001 (2024) ;
DOI: https://doi.org/10.1103/PhysRevD.110.042001

[97] Observation of Gravitational Waves from the Coalescence of a 2.5-4.5 M_sun Compact Object and a Neutron Star
LIGO-VIRGO-KAGRA COLLABORATION
Astrophys. J. Lett. 970, L34 (2024) ;
DOI: https://doi.org/10.3847/2041-8213/ad5beb