

研究業績リスト

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I. 研究論文

- 1) Yasuhide Fukumoto
“Slow motion of a small sphere in a viscous fluid between two concentric circular cylinders.”
J. Phys. Soc. Japan, Vol. **54**, No.4 (1985) pp. 1322–1328.
- 2) Yasuhide Fukumoto
“Unsteady circulatory flow about a circular cylinder with suction or injection.”
J. Phys. Soc. Japan, Vol. **55**, No.2 (1986) pp. 446–449.
- 3) Yasuhide Fukumoto and Takeshi Miyazaki
“N-solitons on a curved vortex filament.”
J. Phys. Soc. Japan, Vol. **55**, No.12 (1986) pp. 4152–4155.
- 4) Yasuhide Fukumoto
“The force on a small sphere in a viscous fluid outside a rotating circular cylinder.”
Proc. of the 35th Japan National Congress for Theoretical and Applied Mechanics, 1985, “Theoretical and Applied Mechanics”, Vol. **35** (東大出版会, 1987) pp. 157–164.
- 5) Yasuhide Fukumoto
“On integral invariants for vortex motion under the localized induction approximation.”
J. Phys. Soc. Japan, Vol. **56**, No.12 (1987) pp. 4207–4209.
- 6) Yasuhide Fukumoto and Takeshi Miyazaki
“N-solitons propagating on a thin curved vortex filament.”
Proc. of the 36th Japan National Congress for Theoretical and Applied Mechanics, 1986, “Theoretical and Applied Mechanics”, Vol. **36** (東大出版会, 1988) pp. 49–60.
- 7) Yasuhide Fukumoto and Takeshi Miyazaki
“Three-dimensional distortions of a vortex filament: Exact solutions of the localized induction equation.”
Fluid Dyn. Res., Vol. **3**, No.1-4 (1988) pp. 157–162.
- 8) Takeshi Miyazaki and Yasuhide Fukumoto
“N-solitons on a curved vortex filament with axial flow.”
J. Phys. Soc. Japan, Vol. **57**, No.10 (1988) pp. 3365–3370.
- 9) Shigeyuki Komura, Toru Miyazawa, Takeo Izuyama, and Yasuhide Fukumoto
“Sound attenuation in a one-dimensional periodic inhomogeneous medium.”
J. Phys. Soc. Japan, Vol. **59**, No.1 (1990) pp. 101–110.
- 10) Yasuhide Fukumoto
“General unsteady circulatory flow outside a porous circular cylinder with suction or injection.”
J. Phys. Soc. Japan, Vol. **59**, No.3 (1990) pp. 918–926.
- 11) Yasuhide Fukumoto and Takeshi Miyazaki
“Three-dimensional distortions of a vortex filament with axial velocity.”
J. Fluid Mech., Vol. **222** (Jan. 1991) pp. 369–416.
- 12) Takeshi Miyazaki and Yasuhide Fukumoto
“Axisymmetric waves on a vertical vortex in a stratified fluid.”
Phys. Fluids A, Vol. **3**, No.4 (1991) pp. 606–616.
- 13) Yasuhide Fukumoto and Mitsuhiro Takayama
“Vorticity production at the edge of a slit by sound waves in the presence of a low-Mach-number bias flow.”
Phys. Fluids A, Vol. **3**, No.12 (1991) pp. 3080–3082.
- 14) Yasuhide Fukumoto and Takeo Izuyama
“Thermal attenuation and dispersion of sound in a periodic emulsion.”
Phys. Rev. A, Vol. **46**, No.8 (1992) pp. 4905–4921.

- 15) Takeshi Miyazaki and Yasuhide Fukumoto
"Three-dimensional instability of strained vortices in a stably stratified fluid."
 Phys. Fluids A, Vol. **4**, No.11 (1992) pp. 2515–2522.
- 16) Yasuhide Fukumoto
"Steady configurations of a vortex filament in flows."
 In *Unstable and Turbulent Motion of Fluid* (ed. by S. Kida, World Scientific) (1993) pp. 50–58.
- 17) Takeshi Miyazaki, Takeshi Imai, and Yasuhide Fukumoto
"Three-dimensional instability of Kirchhoff's elliptic vortex."
 Phys. Fluids, Vol. **7**, No.1 (1995) pp. 2515–2522.
- 18) Yasuhide Fukumoto and Takeshi Miyazaki
"Local stability of two-dimensional steady irrotational solenoidal flows with closed streamlines."
 J. Phys. Soc. Japan, Vol. **65**, No.1 (1996) pp. 107–113.
- 19) Yasuhide Fukumoto and Mitsuharu Miyajima
"The localised induction hierarchy and the Lund-Regge equation."
 J. Phys. A: Math. Gen., Vol. **29**, No.24 (1996) pp. 8025–8034.
- 20) Yasuhide Fukumoto
"Stationary configurations of a vortex filament embedded in background flows."
 Proc. of the Fourth MSJ International Research Institute on Nonlinear Waves, Vol. 1 (1997) pp. 59–64.
- 21) Yasuhide Fukumoto
"Stationary configurations of a vortex filament in background flows."
 Proc. Roy. Soc. Lond. A, Vol. **453**, No.1961 (Jun. 1997) pp. 1205–1232.
- 22) Yasuhide Fukumoto and H. K. Moffatt
"Motion of a vortex ring in a viscous fluid: Higher-order asymptotics."
 Proc. of IUTAM Symposium on Dynamics of Slender Vortices, Fluid Mechanics and Applications series Vol. 44 (eds. E. Krause and K. Gersten, Kluwer) (1998) pp. 21–34.
- 23) T. Rozi and Yasuhide Fukumoto
"The response of Hill's vortex to a small three dimensional disturbance in the case of m=5."
 In Progress in Experimental and Computational Mechanics in Engineering and Material Behaviour (eds. D. Zhu, M. Kikuchi, Y. Shen and M. Geni, Northwestern Ploytech. Univ. Press) (1999) pp. 346–351.
- 24) 福本 康秀
 「Biot-Savart 則に対する Dyson の方法再考」
 ながれ Vol. **19**, No. 3 (2000) pp. 180–185.
- 25) T. Ruzi, Yasuhide Fukumoto and W. Abula
"Evolution of the surface of Hill's vortex subjected to a small three-dimensional disturbance for the cases of m=4 and 5."
 In Advances in Computational Engineering & Sciences (eds. S. N. Atluri and F. W. Brust, Tech Science Press) (2000) pp. 1014–1019.
- 26) T. Rozi and Yasuhide Fukumoto
"The most unstable perturbation of wave-packet form inside Hill's vortex."
 J. Phys. Soc. Japan, Vol. **69**, No. 8 (2000) pp. 2700–2701.
- 27) Yasuhide Fukumoto and H. K. Moffatt
"Motion and expansion of a viscous vortex ring. Part 1. A higher-order asymptotic formula for the velocity."
 J. Fluid Mech., Vol. **417** (2000) pp. 1–45.
- 28) Yasuhide Fukumoto and H. K. Moffatt
"Motion and expansion of a viscous vortex ring: Elliptical slowing down and diffusive expansion."
 Proc. of Symposium on Turbulence Structure and Vortex Dynamics, Isaac Newton Institute Series (eds. J.C.R. Hunt and J.C. Vassilicos, Cambridge University Press) (2000) pp. 1–22.
- 29) Yasuhide Fukumoto
"Motion of a curved vortex filament: Higher-order asymptotics."
 Proc. of IUTAM Symposium on Geometry and Statistics of Turbulence, Fluid Mechanics and Applications series Vol. 59 (eds. T. Kambe, T. Nakano and T. Miyauchi, Kluwer) (2001) pp. 211–216.

- 30) Yasuhide Fukumoto
"Higher-order asymptotic theory for the velocity field induced by an inviscid vortex ring."
 Fluid Dyn. Res. Vol. **30**, No. 2 (2002) pp. 65–92.
- 31) Yasuhide Fukumoto
"Three-dimensional motion of a vortex filament and its relation to the localized induction hierarchy"
 Euro. Phys. J. B Vol. **29**, No. 2 (Oct. 2002) pp. 167–171.
- 32) Yasuhide Fukumoto and S. Lugomer
"Instability of vortex filaments in laser-matter interactions."
 Phys. Lett. A, Vol. **308** No. 5, 6 (2003) pp. 375–380.
- 33) Yasuhide Fukumoto and Yuji Hattori
"Linear stability of a vortex ring revisited."
 Proc. of IUTAM Symposium on Tubes, Sheets and Singularities in Fluid Dynamics, Fluid Mechanics and Applications series Vol. 71 (eds. H. K. Moffatt and K. Bajer, Kluwer) (Dec. 2002) pp. 37–48.
- 34) Yuji Hattori and Yasuhide Fukumoto
"Short-wavelength stability analysis of thin vortex rings."
 Phys. Fluids, Vol. **15**, No. 10 (Oct. 2003) pp. 3151–3163.
- 35) Yasuhide Fukumoto
"The three-dimensional instability of a strained vortex tube revisited."
 J. Fluid Mech. Vol. **493** (Oct. 2003) pp. 287–318.
- 36) Yasuhide Fukumoto
"Conservation laws of circulation and helicity as Noether's theorem."
 Computational Fluid Dynamics Journal, Vol. **13**, No. 3 (Oct. 2004) pp. 417–421.
- 37) V. L. Okulov and Yasuhide Fukumoto
"Helical dipole"
 Doklady Physics, Vol. **49**, No. 11 (Nov. 2004) pp. 662-667.
- 38) Yasuhide Fukumoto and Yuji Hattori
"Curvature instability of a vortex ring."
 J. Fluid Mech. Vol. **526** (Mar. 2005) pp. 77–115.
- 39) Stjepan Lugomer and Yasuhide Fukumoto
"Hierarchical instability of a vortex ring array in multipulse laser-matter interactions."
 Fluid Dynamics Research Vol. **36**, No.4-6 (Apr. 2005) pp. 277-290.
- 40) Yasuhide Fukumoto and V. L. Okulov
"The velocity field induced by a helical vortex tube."
 Phys. Fluids Vol. **17**, No.10 (Oct. 2005) 107101 (19 pages).
- 41) Yasuhide Fukumoto, Yuji Hattori and Kaoru Fujimura
"Weakly nonlinear evolution of an elliptical flow."
 Proc. of the 3rd International Conference on Vortex Flows and Vortex Models (ed. K. Kamemoto, the Japan Society of Mechanical Engineers (JSME), Nov. 2005) pp. 149-154.
- 42) Yasuhide Fukumoto and Yuji Hattori
"Linear and nonlinear instability of a vortex ring."
 Proc. of IUTAM Symposium on Elementary Vortices and Coherent Structures – Significance in Turbulence Dynamics –, Fluid Mechanics and Applications series Vol. 79 (eds. S. Kida, Kluwer, 2006) pp. 283-294.
- 43) Yuji Hattori, Yasuhide Fukumoto and Kaoru Fujimura
"Evolution of an elliptical flow in weakly nonlinear regime."
 Proc. of IUTAM Symposium on Computational Physics and New Perspectives in Turbulence (ed. Y. Kaneda, Springer, 2007) pp. 433-438.
- 44) Yuji Hattori, Yasuhide Fukumoto and Kaoru Fujimura
"Instability of an elliptical flow: Weakly nonlinear analysis."
 Proc. of the Sixth International Conference on Advances in Fluid Mechanics, *Fluid Structure Interaction and Moving Boundary Problems IV* (eds. S. K. Chakrabarti and C. A. Brebbia, WIT press, 2007) pp. 193-201.

- 45) Yasuhide Fukumoto
“Analogy between a vortex-jet filament and the Kirchhoff elastic rod.”
 Fluid Dynamics Research Vol. **39**, No.7 (Jul. 2007) pp. 511-520.
- 46) S. Lugomer, Yasuhide Fukumoto, B. Farkas, T. Szörényi and A. Toth
“Super-complex wave-vortex multiscale phenomena induced in laser-matter interactions.”
 Physical Reviews E Vol. **76** (Jul. 2007) 016305 (15 pages).
- 47) Yasuhide Fukumoto
“Analogy of a vortex-jet filament with the Kirchhoff elastic rod and its dynamical extension.”
 Proc. of IUTAM Symposium on Hamiltonian dynamics, vortex structure and turbulence, IUTAM Book-series Vol. 6 (eds. A. V. Borisov, V. V. Kozlov, I. S. Mamaev and M. A. Sokolovskiy, Springer, 2008) pp. 77-87.
- 48) Yasuhide Fukumoto and F. Kaplanski
“Global time evolution of an axisymmetric vortex ring at low Reynolds numbers.”
 Physics of Fluids Vol. **20**, No. 5 (May, 2008) 053103 (13 pages).
- 49) Yasuhide Fukumoto and H. K. Moffatt
“Kinematic variational principle for motion of vortex rings.”
 Physica D Vol. **237**, No. 14-17 (Aug. 2008) pp. 2210-2217.
- 50) M. Hirota and Y. Fukumoto
“Energy of hydrodynamic and magnetohydrodynamic waves with point and continuous spectra.”
 Journal of Mathematical Physics Vol. **49** (Oct. 2008) 083101 (28 pages).
- 51) M. Hirota and Y. Fukumoto
“Action-angle variables for the continuous spectrum of ideal magnetohydrodynamics.”
 Physics of Plasmas Vol. **15** (Dec. 2008) 122101 (11 pages).
- 52) Yasuhide Fukumoto
“A unified view of topological invariants of fluid flows.”
 Topologica Vol. **1** (Dec. 2008) 003 (12 pages).
- 53) Yasuhide Fukumoto and M. Hirota
“Elliptical instability of a vortex tube and drift current induced by it.”
 Physica Scripta Vol. **T132** (Oct. 2008) 014041 (9 pages).
- 54) Yuji Hattori and Yasuhide Fukumoto
“Short-wavelength stability analysis of a helical vortex tube.”
 Physics of Fluids Vol. **21**, No.1 (Jan. 2009) 014104 (7 pages).
- 55) F. Kaplanski, S. Sazhin, Yasuhide Fukumoto, B. Steven and H. Morgan
“A generalised vortex ring model.”
 Journal of Fluid Mechanics Vol. **622** (Mar. 2009) pp. 233-258.
- 56) Me Me Naing and Yasuhide Fukumoto
“Local instability of an elliptical flow subjected to a Coriolis force.” J. Phys. Soc. Japan Vol. **78**, No. 12 (December, 2009) 124401 (7 pages).
- 57) Yasuhide Fukumoto
“Global time evolution of viscous vortex rings.” Theoretical and Computational Fluid Dynamics Vol. **24**, No. 1-4 (March, 2010) pp. 335–347.
- 58) Y. Hattori and Yasuhide Fukumoto
“Short-wave stability of a helical vortex tube: the effect of torsion on the curvature instability.” Theoretical and Computational Fluid Dynamics Vol. **24**, No. 1-4 (March, 2010) pp. 363–368.
- 59) S. Lugomer and Yasuhide Fukumoto
“Generation of ribbons, helicoids and complex Scherk surface in laser-matter interactions.” Phys. Rev. E Vol. **81** (March, 2010) 036311 (11 pages).
- Figure 10 was displayed on the web site of Phys. Rev. D as part of our “Kaleidoscope” (<http://pre.aps.org>).
- 60) F. Kaplanski, S. S. Sazhin, S. Begg, Yasuhide Fukumoto and M. Heikal
“Dynamics of vortex rings and spray induced vortex ring-like structures” European J. Mechanics B/ Fluids Vol. **29** (March, 2010) 208–216.

- 61) Y. Mie and Yasuhide Fukumoto
“Weakly nonlinear saturation of stationary resonance of a rotating flow in an elliptic cylinder.” Journal of Math-for-Industry Vol. **2** A (April, 2010) 27-37.
- 62) Yasuhide Fukumoto, M. Hirota and Y. Mie
“Lagrangian approach to weakly nonlinear stability of elliptical flow.” Physica Scripta Vol. **T142** (Dec. 2010) 014049 (7 pages).
doi: 10.1088/0031-8949/2010/T142/011003
- 63) F. Kaplanski, Y. Fukumoto and Y. Rudi
“Reynolds-number effect on vortex ring evolution” Proc. of the Sixth International Conference on Fluid Mechanics, AIP Conf. Proc. Vol. **1376** (American Institute of Physics, 2011) pp. 58-61.
- 64) Me Me Naing and Yasuhide Fukumoto
“Local instability of a rotating flow driven by precession of arbitrary frequency.” Fluid Dynamics Research Vol. **43** (August, 2011) 055502 (11 pages).
doi: 10.1088/0169-5983/43/5/055502
- 65) Yasuhide Fukumoto, M. Hirota and Y. Mie
“Energy and mean flow of Kelvin waves, and their application to weakly nonlinear stability of an elliptical flow.” In Proc. of the International Conference ‘Mathematical Analysis on the Navier-Stokes Equations and Related Topics, Past and Future – in memory of Professor Tetsuro Miyakawa’.
Gakuto International Series, Mathematical Sciences and Applications Vol. **43** (Dec. 2011) pp. 53–70.
- 66) F. Kaplanski, Y. Fukumoto and Y. Rudi
“Reynolds-number effect on vortex ring evolution in a viscous fluid.” Physics of Fluids Vol. **24**, No.3 (Mar. 2012) 033101 (13 pages). doi: 10.1063/1.3693276
- 67) Y. Hattori and Yasuhide Fukumoto
“Effects of axial flow on the stability of a helical vortex tube.” Physics of Fluids Vol. **24** (May, 2012) 054102 (15 pages).
doi: 10.1063/1.4717769
- 68) Oleg N. Kirillov, Frank Stefani and Yasuhide Fukumoto
“A unifying picture of helical and azimuthal MRI, and the universal significance of the Liu limit.” Astrophysical Journal Letters Vol. **756**, No. 1 (September, 2012) 756:83 (6 pages).
doi:10.1088/0004-637X/756/1/83
- 69) Abuduwaili Paerhati and Yasuhide Fukumoto
“An example exempted from Thomson-Tait-Chetayev’s theorem.” J. Phys. Soc. Japan Vol. **82** (March, 2013) 043002 (4 pages).
<http://dx.doi.org/10.7566/JPSJ.82.043002>
- 70) Yasuhide Fukumoto and A. B. Samokhin
“Singular electromagnetic modes in an anisotropic medium.” Wave Motion Vol. **50** (March, 2013) 481-493.
doi:10.1016/j.wavemoti.2012.11.001
- 71) Yasuhide Fukumoto and Hiroyuki Sakuma
“A unified view of topological invariants of barotropic and baroclinic fluids and their application to formal stability analysis of three-dimensional ideal gas flows.” Procedia IUTAM Vol. 7 “Topological Fluid Dynamics: Theory and Applications” (April, 2013) 213-222.
doi:10.1016/j.piutam.2013.03.025
- 72) Jishan Fan, Yasuhide Fukumoto and Yong Zhou
“Logarithmically improved regularity criteria for the generalized Navier-Stokes and related equations.” Kinetic and Related Models Vol. **6**, No. 3 (September, 2013) 545-556.
doi:10.3934/krm.2013.6.545
- 73) Yasuhide Fukumoto and Y. Mie
“Hamiltonian bifurcation theory for a rotating flow subject to elliptic straining field.” Physica Scripta Vol. **T155** (2013) 014042 (10 pages).
doi:10.1088/0031-8949/2013/T155/014042
- 74) Yasuhide Fukumoto, M. Hirota and Y. Mie
“Note on representation of wave energy of a rotating flow in terms of dispersion relation.” In Proc. of

- BIRS Workshop on Spectral Analysis, Stability and Bifurcations in Nonlinear Physical Systems (eds. O. N. Kirillov and D. N. Pelinovsky, Wiley-ISTE, 2014) pp. 139-153.
- 75) Yuji Hattori and Yasuhide Fukumoto
"Modal stability analysis of a helical vortex tube with axial flow." Journal of Fluid Mechanics Vol. **738** (January, 2014) 222-249. <http://dx.doi.org/10.1017/jfm.2013.591>
 - 76) Oleg N Kirillov, Frank Stefani and Yasuhide Fukumoto
"Instabilities of rotational flows in azimuthal magnetic fields of arbitrary radial dependence." Fluid Dynamics Research Vol. **46** (June, 2014) 031403 (14 pages). doi:10.1088/0169-5983/46/3/031403
 - 77) Youhei Kawazura, Zensho Yoshida and Yasuhide Fukumoto
"Relabeling symmetry in relativistic fluids and plasmas." Journal of Physics A: Mathematical and Theoretical Vol. **47** (Oct, 2014) 465501 (17 pages). doi:10.1088/1751-8113/47/46/465501
 - 78) Oleg N Kirillov, Frank Stefani and Yasuhide Fukumoto
"Local instabilities in magnetized rotational flows: A short-wavelength approach." Journal of Fluid Mechanics Vol. **760** (November, 2014) 591-633. doi:10.1017/jfm.2014.614
 - 79) Rong Zou and Yasuhide Fukumoto
"Local stability analysis of azimuthal magnetorotational instability of ideal MHD flows." Progress of Theoretical and Experimental Physics (PTEP) Vol. **2014** (November, 2014) 113J01 (18 pages), doi: 10.1093/ptep/ptu139
 - 80) Snezhana I Abarzhi, Yasuhide Fukumoto and Leo P Kadanoff
"Stability of a hydrodynamic discontinuity." Physica Scripta Vol. **90** (January, 2015) 018002 (7 pages). doi:10.1088/0031-8949/90/1/018002
 - 81) Yasuhide Fukumoto and Y. Mie
"Lagrangian approach to weakly nonlinear interaction of Kelvin waves and a symmetry-breaking bifurcation of a rotating flow." Fluid Dynamics Research Vol. **47** (February, 2015) 015509 (15 pages). <http://dx.doi:10.1088/0169-5983/47/1/015509>
 - 82) Jishan Fan, Ahmed Alsaedi, Yasuhide Fukumoto, Taswar Hayat and Yong Zhou
"A regularity criterion for the density-dependent Hall-magnetohydrodynamics." Z. Anal. Angew. (Zeitschrift fur Analysis und ihre Angewendungen: ZAA) Vol. **34** (June, 2015) 277-284. DOI: 10.4171/ZAA/1539
 - 83) Hirofumi Sakuma and Yasuhide Fukumoto
"On formal stability of stratified shear flows." Publ. RIMS Kyoto Univ. Vol. **51** (September, 2015) 605-633.
 - 84) Jishan Fan, Yasuhide Fukumoto, Gen Nakamura and Yong Zhou
"Regularity criteria for the incompressible Hall-MHD system." Z. Angew. Math. Mech. (Zeitschrift fur Angewandte Mathematik und Mechanik: ZAMM) Vol. **95**, No. 11 (November, 2015) 1156–1160. DOI: 10.1002/zamm.201400102
 - 85) Yasuhide Fukumoto, Valery L. Okulov and David H. Wood
"The contribution of Kawada to the analytical solution for the velocity induced by a helical vortex filament." Applied Mechanics Reviews, Vol. **67** (November, 2015) 060801 (6 pages). DOI: 10.1115/1.4031964
 - 86) Michael I. Tribelsky and Yasuhide Fukumoto
"Laser heating of dielectric particles for medical and biological applications." Biomedical Optics Express, Vol. **7**, No. 7 (July, 2016) 263677 (8 pages). DOI:10.1364/BOE.7.002781
 - 87) Hemanta Hazarika and Yasuhide Fukumoto
"Sustainable solution for seawall protection against tsunami-induced damage." International Journal of Geomechanics, ASCE Vol. **16**, No. 5 (October, 2016) 687. [http://dx.doi.org/10.1061/\(ASCE\)GM.1943-5622.0000687](http://dx.doi.org/10.1061/(ASCE)GM.1943-5622.0000687)
 - 88) Yasuhide Fukumoto, Valery L. Okulov and David H. Wood
"The contribution of Kawada to the analytical solution for the velocity induced by a helical vortex filament and modern applications of helical vortices" in Mathematical Analysis of Continuum Mechanics and Industrial Applications, Proceedings of the International Conference CoMFoS15, Springer Series Mathematics for Industry (December, 2016) pp. 167-174. DOI: 10.1007/978 – 981 – 10 – 2633 – 1_2
 - 89) Fermín Franco Medrano, Yasuhide Fukumoto, Clara Marika Velte and Azur Hodžić
"Mass entrainment rate of an ideal momentum turbulent round jet." J. Phys. Soc. Japan Vol. **86**

- (February, 2017) 034401 (10 pages).
<https://doi.org/10.7566/JPSJ.86.034401>
- 90) Hemanta Hazarika, Tadashi Hara and Yasuhide Fukumoto
“Resilient and sustainable geotechnical solution: Lessons learned from the 2011 Great East Japan disaster.” Chapter 9, Springer Transactions in Civil and Environmental Engineering (Eds. G.L. Sivakumar Babu, Sireesh Saride and B. Munwar Basha, 2017) 125-151. DOI: /10.1007/978-981-10-1930-2
- 91) Ummu Habibah, Hironori Nakagawa and Yasuhide Fukumoto
“Finite-thickness effect on speed of a counter-rotating viscous vortex pair.” Fluid Dynamics Research, Vol. **50**, No. 3 (March, 2018) 031401 (27 pages). <https://doi.org/10.1088/1873-7005/aaa5c8>
- 92) Winston L. Sweatman, Graham Weir, Anton Gulley, Daniel Clarke, Yasuhide Fukumoto, J. F. Harper and Sibylle Van Hove
“Initialising finisher gaps in a hot strip mill” ANZIAM Journal, Vol. **58** (May, 2018) M301-M327. <https://doi.org/10.21914/anziamj.v58i0.12433>
- 93) Stjepan Lugomer and Yasuhide Fukumoto
“Supercomplex network of bistable coiled vortex filaments and ribbons in laser-matter interaction.” Journal of Modern and Applied Physics, Vol. **2**, No. 2 (2018) 1-9. <https://www.pulsus.com/scholarly-articles/supercomplex-network-of-bistable-coiled-vortex-filaments-and-ribbons-in-lasermatter-interactions-4600.html>
- 94) D. V. Ilyin, Yasuhide Fukumoto, W. A. Goddard III and S. I. Abarzhi
“Analysis of dynamics, stability and flow fields’ structure of an accelerated hydrodynamic discontinuity with interfacial mass flux by a general matrix method.” Physics of Plasmas Vol. **25** (November, 2018) 112105 (19 pages). <https://doi.org/10.1063/1.5008648>
- 95) Yasuhide Fukumoto and Xiaopeng Zhao
“Well-posedness and large time behavior of solutions for the electron inertial Hall-MHD system.” Advanced in Differential Equations Vol. **24**, No. 1/2 (January, 2019) pp. 31-68. <https://projecteuclid.org/euclid.ade/15444>
- 96) Liangbing Jin, Thi Thai Le and Yasuhide Fukumoto
“Frictional effect on stability of discontinuity interface in tangential velocity of a shallow-water flow” Physics Letters A Vol. **383**, No. 26 (July, 2019) 125839 (5 pages). [10.1016/j.physleta.2019.125839](https://doi.org/10.1016/j.physleta.2019.125839)
- 97) Rong Zou, Joris Labarbe, Oleg N. Kirillov and Yasuhide Fukumoto
“Analysis of azimuthal magnetorotational instability of rotating magnetohydrodynamic flows and Tayler instability via an extended Hain-Lüst equation” Physical Review E Vol. **101** (January, 2020) 013201 (22 pages). DOI: 10.1103/PhysRevE.101.013201
- 98) Fengnan Liu, Yashuhide Fukumoto and Xiaopeng Zhao
“Stability analysis of the explicit difference scheme for Richards equation” Entropy Vol. **22**(3) (March, 2020) 352 (8pp) <https://doi.org/10.3390/e22030352>
- 99) Liu Fengnan, Yashuhide Fukumoto and Xiaopeng Zhao
“A linearized finite difference scheme for the Richards equation under variable-flux boundary conditions” Journal of Scientific Computing (J. Sci. Comput.) Vol. **83** (March, 2020) 16 (21pp)
- 100) Jishan Fan, Yashuhide Fukumoto and Yong Zhou
“Regularity criteria for a Ginzburg-Landau-Navier-Stokes in superfluidity in \mathbb{R}^n ” Mathematical Methods in the Applied Sciences Vol. **43**(10) (April, 2020) 6542-6552. DOI:10.1002/mma.6397
- 101) A. B. Samokhin and Yasuhide Fukumoto
“Singular modes of the integral scattering operator in anisotropic inhomogeneous media” Differential Equations Vol. **56**, No. 9 (October, 2020) pp. 1212-1218. <https://doi.org/10.1134/S0012266120090104>
- 102) V. L. Okulov and Yasuhide Fukumoto
“Analytical solution for self-induced motion of a helical vortex with a Gaussian core” Thermophysics and Aeromechanics Vol. **27**, No. 4 (December, 2020) 481-488. <https://doi.org/10.1134/S0869864320040022>
- 103) Keigo Wada and Yasuhide Fukumoto
“Compressibility effect on Markstein number for a flame front in long-wavelength approximation” in 2019-20 MATRIX Annals (Springer, 2020) pp. 329-350.
- 104) Mako Sato and Yasuhide Fukumoto
“Influence of an oblique magnetic field on planar flame front instability” in 2019-20 MATRIX Annals (Springer, 2020) pp. 439-459.

- 105) V. L. Okulov and Yasuhide Fukumoto
“Singular approximation for calculation of vortex filaments” Journal of Applied Mechanics and Technical Physics Vol. **62**(September, 2021) pp. 519-524. <https://doi.org/10.1134/S0021894421030196>
- 106) X. Zhao, F. Liu and Yasuhide Fukumoto
“A multi level linearized Crank-Nicolson scheme for Richards equation under variable flux boundary conditions” Applicable Analysis Vol.102 (October, 2021) online. <https://doi.org/10.1080/00036811.2021.1992395>
- 107) K. Kuwana, K. Matsue, Yasuhide Fukumoto, R. Dobashi and K. Saito
“Fire whirls: a combustion science perspective” Combustion Science and Technology Vol.195 (January, 2022) online. <https://www.tandfonline.com/doi/full/10.1080/00102202.2021.2019234>
- 108) V. L. Okulov and Yasuhide Fukumoto
“Review of analytical approaches for simulating motions of helical vortex” Frontiers in Energy Research (Front. Energy Res.) Vol. **15** (February, 2022) 817941 (6 pages). <https://doi.org/10.3389/fenrg.2022.817941>
- 109) D. Packwood, L.T.H. Nguyen, P. Cesana, G. Zhang, A. Staykov, Yasuhide Fukumoto and D.H. Nguyen
“Machine learning in materials chemistry: An invitation” Machine Learning with Application Vol. **8** (June, 2022) 100265 (31 pages). <https://doi.org/10.1016/j.mlwa.2022.100265> open access
- 110) T.T. Le and Yasuhide Fukumoto
“Effect of depth discontinuity on interfacial stability of tangential-velocity discontinuity in shallow-water flow” Physics Letters A Vol. **436** (June, 2022) 128073 (7 pages). <https://doi.org/10.1016/j.physleta.2022.128073>
- 111) Kazuo Matsuura and Yasuhide Fukumoto
“Hierarchical clustering method of volumetric vortical regions with application to the late-stage of laminar-turbulent transition” Physical Review Fluids Vol. **7** (May, 2022) 054703 (46 pages). <https://doi.org/10.1103/PhysRevFl.7.054703>
- 112) Yasuhide Fukumoto and Rong Zou,
“Isomagnetovortical perturbations and wave energy of MHD flows” Reviews of Modern Plasma Physics Vol. **7** (January, 2023) 8 (21 pages). <https://doi.org/10.1007/s41614-023-00113-8>
- 113) Linh Thi Hoai Nguyen, Yasuhide Fukumoto, Pierluigi Cesana and Aleksandar Staykov,
“Fully automatized optimization of ring-opening reactions in lactone derivatives via 2-step machine learning” Journal of Physical Chemistry A **127** (November, 2023) 10159-10170. <https://doi.org/10.1021/acs.jpca.3c05887>
- 114) Thi Thai Le, Yasuhide Fukumoto and Thorsten Koch,
“Linear stability of a simple shear layer between two parallel streams in a shallow water flow” Physics Letters A Vol. **493** (January, 2024) 129264 (7 pages). <https://doi.org/10.1016/j.physleta.2023.129264>
- 115) Yasuhide Fukumoto and Rong Zou,
“Nambu bracket for 3D ideal fluid dynamics and magnetohydrodynamics” Prog. Theor. Exp. Phys. (PTEP) Vol. **2024** (February, 2024) ptae025 (31 pages). <https://doi.org/10.1093/ptep/ptae025>
- 116) M. O. Assuncão, Pierluigi Cesana, Yasuhide Fukumoto, Graeme Hocking, Michael Vynnycky and Doireann O’Kiely,
“Optimal design of observation holes on strainers for groundwater measurements”, Mathematics in Industry Reports (MIIR) (August, 2024) online. <https://www.cambridge.org/engage/miir/search-dashboard?text=ESGI173>

II. 解説論文等

- 117) 福本 康秀
竜門賞受賞記念解説: 「軸方向流を伴う渦糸の3次元運動」
ながれ, Vol. **13**, No.2 (1994) pp. 84–98.
- 118) 福本 康秀
流体力学用語解説: 「渦糸 (Vortex filament)」
ながれ, Vol. **14**, No.1 (1995) pp. 75–76.
- 119) 福本 康秀
流体力学ハンドブック 第2版, 5章「渦」,
日本流体力学会編, 丸善 (1998) pp. 162-170, 173-180, 189-201.
1998年5月15日刊行
- 120) 福本 康秀
「渦糸をめぐる可積分系」
数学セミナー別冊 数学の楽しみ No. 25, 日本評論社 (2001年6月号) pp. 21–31.

- 121) Y. Fukumoto
"Motion of a vortex filament and related integrable systems"
to appear in Proc. of the 99 Overseas Scholars Academic Conference of Xinjiang Uighur Autonomous Region "UMID 99" (eds. T. Rozi and M. Ning).
- 122) 福本 康秀
「Euler-Poincaré 形式による渦のトポロジーと力学」
物性研究(物性研究刊行会, 京都大学・湯川記念館) Vol. 81, No. 3 (2003 年 12 月号) pp. 414–442.
- 123) 福本 康秀
ながれの事典, 3 章 4 節「渦運動」,
(編集委員長 神部勉, 丸善) (Mar. 2004) pp. 18–22.
- 124) 福本 康秀
「オイラー・ポアンカレ形式による渦のトポロジーと力学」
数理物理への誘い 5 (河東泰之編, 遊星社, 2005 年 2 月) pp. 98-121.
- 125) 福本 康秀
「渦運動の基礎知識, 1. 渦度の運動学と力学」
ながれ, Vol. 24, No. 2 (2005) pp. 207–219; 「2. 点渦系」ながれ, Vol. 24, No. 3 (2005) pp. 327–340; 「3. 渦層」ながれ, Vol. 24, No. 4 (2005) pp. 443–457; 「4. 渦領域」ながれ, Vol. 24, No. 5 (2005) pp. 553–568; 「5. 粘性流体中の渦管」ながれ, Vol. 25, No. 1 (2006) pp. 61–77; 「6. 渦輪」ながれ, Vol. 25, No. 3 (2006) pp. 265–280; 「7. 渦管の 3 次元運動」ながれ, Vol. 25, No. 4 (2006) pp. 391–408
- 126) Y. Fukumoto
"On analogy between elastica hypoarealis and equilibrium form of a vortex filament in a jet"
In Festschrift in honour of Professor Tsutomu Kambe (eds. M. Umeki, 2006) pp.149–152.
- 127) 福本 康秀
学術会合報告「EE250 会議概要報告」,
応用数理 Vol. 17, No.4 (日本応用数理学会編, 岩波書店, Dec. 2007) pp. 87-88.
- 128) 福本 康秀
第 5 章「渦を破壊せよ」in 「技術に生きる現代数学」(若山正人編, 岩波書店, 総ページ数 206, 2008.2)
pp.133-174. [若山正人, 二宮嘉行, 谷口説男, 金子昌信, 福本康秀, 佐伯修]
- 129) 福本 康秀
オイラー方程式の南部力学表現について
ながれ, Vol. 28, No.6 (2009, 12 月) pp. 499–500.
- 130) 福本 康秀
新著紹介 : Zensho Yoshida 著 “Nonlinear Science: Challenge of Complex Systems”
日本物理学会誌, Vol. 66, No.3 (2011, 3 月) p. 232.
- 131) 福本 康秀
「非線形シュレディンガー方程式による流れのモデル化」in 「数学モデリングの手引き」(編集 西井龍映,
宋伸一郎, 岡田勘三, 落合啓之, 小磯深幸, 白井朋之, 2013.3).
- 132) Y. Fukumoto
“Modeling of Fluid Flows by Nonlinear Schrodinger Equation”, in A Mathematical Approach to Research Problems of Science and Technology Series: Mathematics for Industry, Vol. 5 (Editors: Nishii, R., Ei, S.-I., Koiso, M., Ochiai, H., Okada, K., Saito, S., Shirai, T., Springer, 2014) pp. 365-378
- 133) Y. Fukumoto
Chap. 12 “Exact and Approximate Solutions” in Part II CLASSICAL FLUID DYNAMICS, CRC Handbook of Fluid Dynamics, 2nd ed. (Editor-in-Chief: Richard W. Johnson, CRC Press of Taylor and Francis Group publishers, 2015).
- 134) 福本 康秀
「南部の流体力学を読み解く～素粒子物理学者の眼から見た流体力学～」数理科学 Vol. 54, No. 634, サイエンス社 (2016 年 4 月号) pp. 7–13.
- 135) 福本 康秀
「ベクトル解析と流体力学」数学セミナー Vol. 58, No. 8 (694), 日本評論社 (2019 年 8 月号) pp. 12-19.
- 136) 福本 康秀
古典力学の安定性解析：コマから流体の運動まで
ながれ, Vol. 41, No.5 (2022, 10 月) pp. 330-335.