

誌 上 発 表 Publications

[雑誌]

(原著論文) *印は査読制度がある論文誌

- Shen J., Zhao Y., Arima A., and Yoshinaga N.: “New extrapolation method for low-lying states of nuclei in the sd and the pf shells”, *Phys. Rev. C* **83**, 044322-1–044322-8 (2011). *
- Watanabe G., Yoon S., and Dalfovo F.: “Swallowtail Band Structure of the Superfluid Fermi Gas in an Optical Lattice”, *Phys. Rev. Lett.* **107**, 270404-1–270404-5 (2011). *
- Guo L. and Nakatsukasa T.: “Time-dependent Hartree-Fock studies of the dynamical fusion threshold”, *EPJ Web Conf.* **38**, 09003-1–09003-5 (2012).
- Nguyen D. D.: “Viscosity of hot nuclei”, *J. Phys.: Conf. Ser.* **366**, 01205-1–01205-5 (2012). *
- Ebata S., Nakatsukasa T., and Inakura T.: “Study of pygmy dipole resonance with a new time-dependent mean field theory”, *J. Phys.: Conf. Ser.* **381**, 012104-1–012104-6 (2012). *
- Nakatsukasa T., Ebata S., Avogadro P., Guo L., Inakura T., and Yoshida K.: “Density functional approaches to nuclear dynamics”, *J. Phys.: Conf. Ser.* **387**, 0120156-1–0120156-10 (2012). *
- Nakatsukasa T.: “Real-time calculations of many-body dynamics in quantum systems”, *J. Phys.: Conf. Ser.* **402**, No. 1, pp. 012032-1–012032-15 (2012). *
- Nguyen D. D.: “Damping of giant dipole resonance in hot rotating nuclei”, *Phys. Rev. C* **85**, No. 6, pp. 064323-1–064323-9 (2012). *
- Tohyama M. and Nakatsukasa T.: “Fragmentation of electric dipole strength in $N = 82$ isotones”, *Phys. Rev. C* **85**, 031302-1–031302-4 (2012). *
- Nguyen H. Q. and Nguyen D. D.: “Specific shear viscosity in hot rotating systems of paired fermions”, *Phys. Rev. C* **86**, No. 2, pp. 024302-1–024302-7 (2012). *
- Sato K., Hinohara N., Yoshida K., Nakatsukasa T., Matsuo M., and Matuyanagi K.: “Shape transition and fluctuations in neutron-rich Cr isotopes around $N=40$ ”, *Phys. Rev. C* **86**, No. 2, p. 024316 (2012). *
- Nguyen D. D. and Nguyen H. Q.: “Giant dipole resonance in ^{201}Tl at low temperature”, *Phys. Rev. C* **86**, No. 4, pp. 044333-1–044333-7 (2012). *
- Washiyama K., Bennaceur K., Avez B., Bender M., Heenen P., and Hellemans V.: “New parametrization of Skyrme’s interaction for regularized multireference energy density functional calculations”, *Phys. Rev. C* **86**, No. 5, pp. 054309-1–054309-14 (2012). *
- Ward D., Macchiavelli A. O., Clark R. M., Cline D., Cromaz M., Deleplanque M. A., Diamond R. M., Fallon P., Goergen A., Hayes A. B., Lane G. J., Lee I. Y., Nakatsukasa T., Schmidt G., Stephens F. S., Svensso C. E., Teng R., Vetter K., and Wu C. Y.: “Band structure of ^{235}U ”, *Phys. Rev. C* **86**, 064319-1–064319-49 (2012). *
- Ebata S., Nakatsukasa T., and Inakura T.: “Cb-TDHF calculation for the low-lying $E1$ strength of heavy nuclei around the r -process path”, *Prog. Theor. Phys. Suppl.* **196**, 316–321 (2012). *
- Hinohara N., Sato K., Yoshida K., Nakatsukasa T., Matsuo M., and Matuyanagi K.: “Microscopic analysis of shape coexistence/mixing and shape phase transition in neutron-rich nuclei around ^{32}Mg ”, *Prog. Theor. Phys. Suppl.* **196**, 328–333 (2012). *
- Inakura T., Nakatsukasa T., and Yabana K.: “Shell and neutron-skin effects on pygmy dipole resonances”, *Prog. Theor. Phys. Suppl.* **196**, 365–370 (2012). *
- Nakatsukasa T.: “Density functional approaches to collective phenomena in nuclei: Time-dependent density functional theory for perturbative and non-perturbative nuclear dynamics”, *Progress of Theoretical and Experimental Physics* **2012**, 01A207-1–01A207-46 (2012). *
- (総説)
- 中務孝: “原子核理論研究に横たわる多くの未解決問題”, *化学* **66**, No. 11, pp. 39–42 (2011).
- 中務孝, 江幡修一郎: “正準基底表示の時間依存平均場理論と超流動原子核の線形応答”, *日本物理学会誌* **67**, No. 4, pp. 243–246 (2012).
- 中務孝: “ $N = Z$ 原子核の謎と新しい対凝縮相”, *パリティ* **56**, No. 1, pp. 41–42 (2013).
- (その他)
- Kohama A., Iida K., and Oyamatsu K.: “Black-sphere approximation to nuclei and its application to reactions with neutron-rich nuclei”, *Proceedings of French-Japanese Symposium on Nuclear Structure Problems*, pp. 106–109 (2012).
- [単行本・Proc.]
- (原著論文) *印は査読制度がある論文誌
- Fukuoka Y., Nakatsukasa T., Funaki Y., and Yabana K.: “Stochastic approach to correlations beyond the mean field with the Skyrme interaction”, *AIP Conference Proceedings 1491 ”Nuclear Structure and Dynamics ’12”*, Opatija, Croatia, 2012–7, AIP, New York, pp. 222–225 (2012).
- Nakatsukasa T., Inakura T., Avogadro P., Ebata S., Sato K., and Yabana K.: “Linear response calculation in the time-dependent density functional theory”, *AIP Conference Proceedings 1484 ”Origin of Matter and Evolution of Galaxies 2011”*, Wako, 2011–11, AIP, New York, pp. 142–149 (2012).
- Lacroix D., Ayik S., Yilmaz B., and Washiyama K.: “Large amplitude motion with a stochastic mean-field approach”, *EPJ Web of Conferences Vol. 38, NSRT12-International Conference on Nuclear Structure and Related Topics, Dubna, Russia, 2012–7*, EDP Sciences, Les Ulis, pp. 06003-p.1–06003-p.5 (2012).
- Hinohara N., Sato K., Matuyanagi K., Nakatsukasa T., Yoshida K., and Matsuo M.: “Large-amplitude

quadrupole collective dynamics in neutron-rich Mg and Cr isotopes”, French-Japanese Symposium on Nuclear Structure Problems, Wako, 2011–1, World Scientific, Singapore, pp. 122–125 (2012).

Sato K., Hinohara N., Matuyanagi K., Nakatsukasa T., and Matsuo M.: “Microscopic description of large-amplitude collective motions with local QRPA inertial masses”, French-Japanese Symposium on Nuclear Structure Problems, Wako, 2011–1, World Scientific, Singapore, pp. 126–129 (2012).

Liang H., Meng J., Ring P., Roca-Maza X., and Zhao P.: “Local covariant density functional constrained by the relativistic Hartree-Fock theory”, Nuclear Structure and Dynamics ’12, Opatija, Croatia, 2012–7, AIP, New York, pp. 230–233 (2012). *

Sato K., Hinohara N., Nakatsukasa T., Matsuo M., and Matuyanagi K.: “Microscopic approach to large-amplitude deformation dynamics with local QRPA inertial masses”, Rutherford Centennial Conference on Nuclear Physics, Manchester, UK, 2012–9, IOP Publishing, Bristol, p. 012103 (2012). *

□ 頭 発 表 Oral Presentations

(国際会議等)

Nakatsukasa T.: “Microscopic approaches to large-amplitude collective motion”, 5th ASRC International Workshop on Perspectives in Nuclear Fission, (JAEA), Tokai, Mar. (2012).

Nakatsukasa T.: “Time-dependent methods for quantum many-body dynamics”, KITPC Program: From nucleon structure to nuclear structure and compact astrophysical objects, (KITPC), Beijing, China, June–July (2012).

Nakatsukasa T., Fukuoka Y., Funaki Y., and Yabana K.: “Stochastic approach to correlations beyond the mean field with the Skyrme interaction”, 2nd International Conference on Nuclear Structure and Dynamics ’12, (University of Zagreb), Opatija, Croatia, July (2012).

Liang H.: “Fine structure of spin-dipole excitations in covariant density functional theory”, [RIBF-ULIC-Symposium-010] International Symposium on Perspective in Isospin Physics Role of non-central interactions in structure and dynamics of unstable nuclei, RIKEN, Aug. (2012).

Sato K.: “Mean-field calculation including proton-neutron mixing – toward proton-neutron pairing –”, [RIBF-ULIC-Symposium-010] International Symposium on Perspective in Isospin Physics Role of non-central interactions in structure and dynamics of unstable nuclei, Wako, Aug. (2012).

Nguyen D. D.: “Description of giant dipole resonance’s damping in highly excited nuclei”, 47th Zakopane Conference on nuclear physics, (Institute of Nuclear Physics, Polish Academy of Sciences), Zakopane, Poland, Aug.–Sept. (2012).

Washiyama K., Heenen P., and Bender M.: “Regularized

multi-reference energy density functional calculations for Mg isotopes”, Collective Motion in Nuclei under Extreme Conditions (COMEX4), (University of Tokyo, Osaka University), Hayama, Oct. (2012).

Liang H.: “Self-consistent relativistic study of spin-isospin resonances”, Collective Motion in Nuclei under Extreme Conditions (COMEX4), (Center for Nuclear Study (CNS) and Research Center for Nuclear Physics (RCNP)), RIKEN and Kanagawa, Oct. (2012).

Nakatsukasa T.: “Time-dependent density-functional calculation of nuclear response and collective motion”, Collective Motion in Nuclei under Extreme Conditions (COMEX4), (Center of Nuclear Study, University of Tokyo), Hayama, Oct. (2012).

Sato K., Nakatsukasa T., Dobaczewski J., and Wojciech S.: “Mean-field calculation including proton-neutron mixing in atomic nuclei”, Conference on Computational Physics 2012 (CCP2012), (Osaka University), Kobe, Oct. (2012).

Nakatsukasa T.: “Developments in finite amplitude method”, 6th LACM-TORIJJIN-JUSTIPEN workshop, (Oak Ridge National Laboratory), Oak Ridge, USA, Oct.–Nov. (2012).

Washiyama K., Heenen P., and Bender M.: “Multi-reference calculations with new regularizable Skyrme energy density functionals”, The 6th LACM-TORIJJIN-JUSTIPEN Workshop, (Oak Ridge National Laboratory, TORIJJIN, JUSTIPEN), Oak Ridge, USA, Oct.–Nov. (2012).

Nakatsukasa T.: “Time-dependent density-functional studies on strength functions in neutron-rich nuclei”, 5th International Conference on Fission and properties of neutron-rich nuclei, (University of Vanderbilt), Sanibel Island, USA, Nov. (2012).

Sato K., Hinohara N., Yoshida K., Nakatsukasa T., Matsuo M., and Matuyanagi K.: “Microscopic approach to large-amplitude deformation dynamics with local QRPA”, 7th Italy-Japan Symposium on Nuclear Physics, (INFN), Milano, Italy, Nov. (2012).

Sato K., Nakatsukasa T., Satula W., and Dobaczewski J.: “Mean-field calculation including proton-neutron mixing in atomic nuclei –toward proton-neutron pairing–”, Quarks to Universe in Computational Science (QUCS 2012), Nara, Dec. (2012).

Liang H.: “Self-consistent study of spin-isospin resonances and a recent application in r-process calculations”, The 15th Mini-Workshop for Nuclear Physics and Nuclear Astrophysics, (Soongsil University), Seoul, Korea, Dec. (2012).

(国内会議)

中務孝: “Pairing and collective motions in nuclei”, 3rd Todai-RIKEN workshop on the BEC and QCD, (University of Tokyo), 東京, 2月 (2011).

中務孝: “核内核子の1粒子運動の基礎と密度汎関数理論”, サマースクール「クォークから超新星爆発まで」, (基礎物

- 理学研究所), 京都, 8月(2011).
- 谷口億宇, 延與佳子: “余剰中性子による亜障壁核融合断面積の増大”, 基研研究会「微視的核反応理論による物理」, (京都大学), 京都, 8月(2011).
- 稲倉恒法: “ピグミー双極子共鳴と中性子スキンの相関について”, 日本物理学会 2011 年秋季大会, (日本物理学会), 弘前, 9月(2011).
- 中務孝: “原子核における核子相関”, 日本物理学会 2011 年秋季大会, (日本物理学会), 弘前, 9月(2011).
- 江幡修一郎, 中務孝, 稲倉恒法: “Cb-TDHFB による重い核 ($100 \leq A$) に対する低エネルギー双極子振動の系統的的研究”, 日本物理学会 2011 年秋季大会, (日本物理学会), 弘前, 9月(2011).
- 谷口億宇: “ ^{42}Ca の励起状態のクラスタ相関と E0 遷移”, 京都大学基礎物理学研究所研究会「E0, E1 励起を通じて探る原子核の低い励起エネルギーのエキゾチックな構造」, (京都大学), 京都, 12月(2011).
- 稲倉恒法: “ピグミー共鳴状態に対する中性子殻構造とスキンの影響”, 京都大学基礎物理学研究所研究会「E0, E1 励起を通じて探る原子核の低い励起エネルギーのエキゾチックな構造」, (京都大学基礎物理学研究所), 京都, 12月(2011).
- 江幡修一郎, 中務孝, 稲倉恒法: “Cb-TDHFB による低エネルギー E1 分布の系統的計算”, 京都大学基礎物理学研究所研究会「E0, E1 励起を通じて探る原子核の低い励起エネルギーのエキゾチックな構造」, (京都大学基礎物理学研究所), 京都, 12月(2011).
- 佐藤弘一, 中務孝, Dobaczewski J.: “p-n 混合を入れた原子核の平均場計算”, 素核宇融合による計算基礎物理学の進展, (新学術領域研究「素核宇宙融合による計算科学に基づいた重層的物質構造の解明」), 志摩, 12月(2011).
- 中務孝: “密度汎関数理論による核構造・核反応の大規模数値計算”, 大規模計算による原子核研究の展開: 核子多体系を中心に, (計算基礎科学連携拠点), 和光, 1月(2012).
- 中務孝: “計算機で見る原子核”, 第 10 回 HSS ワークショップ, (北海道大学), 札幌, 2月(2012).
- 谷口億宇: “sd 及び pf 殻領域の低励起変形状態におけるクラスタ相関”, 第 2 回実証的原子核物理学研究会, (大阪大学), 茨木, 2月(2012).
- 谷口億宇, 延與佳子: “空間的相関の強い系における部分系波動関数の定義とその応用”, 日本物理学会第 67 回年次大会, (日本物理学会), 西宮, 3月(2012).
- 稲倉恒法: “低エネルギー E1 強度で見る中性子スキン”, 日本物理学会第 67 回年次大会, (日本物理学会), 西宮, 3月(2012).
- 佐藤弘一, 中務孝, Dobaczewski J.: “陽子-中性子混合を入れた平均場計算”, 日本物理学会第 67 回年次大会, (日本物理学会), 西宮, 3月(2012).
- 中務孝: “原子核物理入門”, KEK サマーチャレンジ, (KEK), つくば, 8月(2012).
- 近藤久直, 飯田圭, 小濱洋央, 親松和浩: “くろたまモデルによる安定核構造の系統的解析”, ミニワークショップ「不安定核と核データ」, 和光, 8-8月(2012).
- 小濱洋央, 飯田圭, 親松和浩: “中間エネルギーでの相互作用断面積データとくろたま断面積公式”, 日本物理学会 2012 年秋季大会, (日本物理学会), 京都, 9月(2012).
- 鷲山広平, Ayik S., Lacroix D.: “確率的平均場模型を用いた核子移行反応における質量分布幅の記述”, 日本物理学会, (日本物理学会), 京都, 9月(2012).
- 佐藤弘一, 中務孝, Satula W., Dobaczewski J.: “ $A=48$ 同重核における陽子-中性子混合を含んだ平均場計算”, 日本物理学会 2012 年秋季大会, (日本物理学会), 京都, 9月(2012).
- Liang H.: “Nuclear charge-exchange excitations in a self-consistent covariant approach”, 千葉大学原子核理論セミナー, (Chiba University), Chiba, 11月(2012).
- 小濱洋央: “共同研究「RIBF 核反応データの高度利用研究」: 理研での取り組み”, RIBF-ULIC-miniWS019 「不安定核ビーム実験データベースの開発と利用」, 和光市, 11月(2012).
- 小濱洋央, 飯田圭, 親松和浩: “Nuclear sizes, total reaction cross sections, and nuclear symmetry energies”, RIBF ULIC mini-WS on ”Systematic study of nuclear radii -Theory and Experiment-”, 和光市, 12月(2012).
- Liang H.: “Nuclear charge-exchange excitations in localized covariant density functional theory”, 仙台原子核科学コロキウム, (東北大学), 仙台, 3月(2013).
- 中務孝: “計算核物理のフロンティア”, 日本物理学会第 68 回年次大会, (日本物理学会), 東広島, 3月(2013).
- 鷲山広平, Heenen P., Bender M.: “正則化されたエネルギー密度汎関数を用いた生成座標法による Mg 同位体の記述”, 日本物理学会第 68 回年次大会, (日本物理学会), 東広島市, 3月(2013).