PUBLICATIONS

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Research achievements: In my field (High energy physics and Cosmology), relevant achievements are papers published in journals. Presentations at conferences are not considered as independent publications. Impact factors are similar for typical journals such as Physical Review D (PRD), Physics Letters B (PLB), Journal of Cosmology and Astroparticle Physics (JCAP) and Journal of High Energy Physics (JHEP), except for Physical Review Letter (PRL). A paper posted on the arXiv is commonly considered published, so I add my latest works although they are still under peer review.

About authorship: Authorship order in high energy physics papers is commonly alphabetical, but author names on astrophysics paper are mostly based on authors' contributions. Cosmology is on boundary of these two disciplines, and hence these two conventions are mixed in my publications. Below, $*$ is put on papers whose author names are ordered based on contributions.

PAPERS IN PUBLICATION

[14] **A. Ota**, "Induced superhorizon tensor perturbations from anisotropic non-Gaussianity," arXiv:2001.00409 [astro-ph.CO]. **submitted to PRD**

[13] W. R. Coulton, **A. Ota** and A. van Engelen, "Cosmology with the thermal-kinetic Sunyaev-Zel'dovich effect," arXiv:1910.10152 [astro-ph.CO], **submitted to PRL**.

[12] M. Hongo, S. Kim, T. Noumi and **A. Ota**, "Effective Lagrangian for Nambu-Goldstone modes in nonequilibrium open systems," arXiv:1907.08609 [hep-th], **submitted to PRL**.

[11] S. Saga, A. Ota, H. Tashiro and S. Yokoyama, "Secondary CMB temperature anisotropies from magnetic reheating," Mon. Not. Roy. Astron. Soc. **490**, no. 3, 4419 (2019) doi:10.1093/mnras/stz2882 [arXiv:1904.09121 [astro-ph.CO]].

[10] **A. Ota**, "Statistical anisotropy in CMB spectral distortions," Phys. Lett. B **790**, 243 (2019) doi:10.1016/j.physletb.2019.01.030 [arXiv:1810.03928 [astro-ph.CO]].

[9] **A. Ota*** and N. Bartolo, "CMB spectroscopy at third-order in cosmological perturbations," Phys. Rev. D **100**, no. 4, 043521 (2019) doi:10.1103/PhysRevD.100.043521 [arXiv:1808.10517 [astro-ph.CO]].

[8] M. Hongo, S. Kim, T. Noumi and **A. Ota**, "Effective field theory of time-translational symmetry breaking in nonequilibrium open system," JHEP **1902**, 131 (2019) doi:10.1007/JHEP02(2019)131 [arXiv:1805.06240 [hep-th]].

[7] T. Haga, K. Inomata, **A. Ota** and A. Ravenni, "Exploring compensated isocurvature perturbations with CMB spectral distortion anisotropies," JCAP **1808**, no. 08, 036 (2018) doi:10.1088/1475-7516/2018/08/036 [arXiv:1805.08773 [astro-ph.CO]]. 2 citations counted in INSPIRE as of 28 Aug 2018

[6] **A. Ota** and M. Yamaguchi, "Secondary isocurvature perturbations from acoustic reheating," JCAP **1806**, no. 06, 022 (2018) doi:10.1088/1475-7516/2018/06/022 [arXiv:1705.05196 [astro-ph.CO]].

[5] **A. Ota**, "CMB spectral distortions as solutions to the Boltzmann equations," JCAP **1701**, no. 01, 037 (2017) doi:10.1088/1475-7516/2017/01/037 [arXiv:1611.08058 [astro-ph.CO]]. 3 citations counted in INSPIRE as of 19 Aug 2018

[4] **A. Ota**, "Cosmological constraints from μE cross-correlations," Phys. Rev. D **94**, no. 10, 103520 (2016) doi:10.1103/PhysRevD.94.103520 [arXiv:1607.00212 [astro-ph.CO]]. 7 citations counted in INSPIRE as of 19 Aug 2018

[3] A. Naruko, **A. Ota** and M. Yamaguchi, "Probing small-scale non-Gaussianity from anisotropies in acoustic reheating," JCAP **1505**, no. 05, 049 (2015) doi:10.1088/1475-7516/2015/05/049 [arXiv:1503.03722 [astro-ph.CO]]. 6 citations counted in INSPIRE as of 19 Aug 2018

[2] **A. Ota**, T. Sekiguchi, Y. Tada and S. Yokoyama, "Anisotropic CMB distortions from non-Gaussian isocurvature perturbations,"
JCAP **1503**, no. 03, 013 (2015) doi:10.1088/1475-7516/2015/03/013 [arXiv:1412.4517 [astro-ph.CO]]. 9 citations counted in INSPIRE as of 19 Aug 2018

[1] **A. Ota**, T. Takahashi, H. Tashiro and M. Yamaguchi, "CMB μ distortion from primordial gravitational waves," JCAP **1410**, no. 10, 029 (2014) doi:10.1088/1475-7516/2014/10/029 [arXiv:1406.0451 [astro-ph.CO]]. 14 citations counted in INSPIRE as of 19 Aug 2018

COLLABORATIONS

[1] J. Chluba *et al.*, "Spectral Distortions of the CMB as a Probe of Inflation, Recombination, Structure Formation and Particle Physics," arXiv:1903.04218 [astro-ph.CO].

PRESENTATIONS

Invited talks

[2] "CMB spectroscopy for primordial non-Gaussianity", Probing fundamental physics with CMB spectral distortions, CERN, Switzerland, 03/2018

[1] "CMB μ distortion from primordial gravitational waves", Mini-Workshop on Cosmology, Asia Pacific Center of Theoretical Physics, Korea, 12/2014

Conference talks (International)

[10] "Cosmology with the thermal-kinetic Sunyaev-Zel'dovich effect", UK Cosmology Meeting 2020, Lancaster, UK, 01/2020, `https://ukcosmologymeeting.wixsite.com/ukcosmo`

[9] "CMB spectroscopy at third order in cosmological perturbations", Workshop on the non-Gaussian Universe, Cambridge, UK, 09/2019

[8] "Statistical anisotropy in CMB spectral distortions", Accelerating Universe in the Dark, Kyoto, Japan, 03/2019

[7] "Effective field theory of time-translational symmetry breaking in open systems", Infrared physics of gauge theories and quantum dynamics of inflation, Shiga, Japan, 01/2018

[6] "Spontaneous symmetry breaking in open systems: Toward application to EFT of inflation", The 27th Workshop on General Relativity and Gravitation, Hiroshima, Japan 11/2017

[5] "Cosmological constraints from μE cross-correlations", The 26th Workshop on General Relativity and Gravitation, Osaka City University, Japan, 10/2016

[4] "Cosmological constraints from μE cross-correlations", Summer School on Symmetries, Fundamental Interactions and Cosmology 2016, Germany, 09/2016

[3] "Cosmological constraints from μE cross-correlations", RESCUE Summer school, Nagano, Japan, 08/2016

[2] "CMB μ distortion from primordial gravitational waves" The 24th Workshop on General Relativity and Gravitation, Kavli Institute for Physics and Mathematics of the Universe, Tokyo, Japan 11/2014

[1] "CMB μ distortion from primordial gravitational waves" Research Center of the Early Universe Summer school, Nagano Japan, 08/2014

Conference talks (in Japanese)

[3] "Secondary isocurvature perturbations from acoustic reheating", JPS conference, 09/2017

[2] "CMB spectral distortions as solutions of the Boltzmann equation", JPS conference, 03/2017

[1] Other three JPS presentations, titles are in Japanese.

Seminar talks

[22] "Induced superhorizon tensor perturbations from anisotropic non-Gaussianity", Louvain University, 12/2020

[21] "Cosmology with the thermal-kinetic Sunyaev-Zel'dovich effect", University College London, 12/2019

[20] "Statistical anisotropy in spectral distortions", Queen Mary University of London, 05/2019

[19] "Statistical anisotropy in spectral distortions", Nagoya University, 03/2019

[18] "Statistical anisotropy in spectral distortions", University of Sussex, 12/2018

[17] "CMB spectral distortions in the framework of cosmological perturbation theory", Manchester University, 11/2018

[16] "Statistical anisotropy in spectral distortions", ICG Portsmouth, 10/2018

[15] "EFT of dissipative fluid: an application to cosmology", The Institut d'Astrophysique de Paris (IAP), 10/2018

[14] "EFT of dissipative fluid: an application to cosmology", Marseille University, 10/2018

[13] "Late time evolution of isocurvature perturbations at second order", Padova University, 05/2018

[12] "Late time evolution of isocurvature perturbations at second order", Groningen University, 05/2018

[11] "Open system effective field theory for time-translational symmetry breaking: towards application to EFT of inflation", Utrecht University, 04/2018

[10] "A new method for higher order CMB anisotropy", Rikkyo University, 05/2017

[9] "A new method for higher order CMB anisotropy", Kobe University, 03/2017

[8] "CMB spectral distortions as solutions to the Boltzmann equations", KEK, 03/2017

[7] "Higher order anisotropies in the cosmic microwave background", Max Planck Institute of Astrophysics (Job Talk), 01/2017

[6] "Cosmological Constraints from μE cross-correlations" Syracuse University, 10/2016

[5] "Cosmological Constraints from μE cross-correlations" Manchester University, 10/2016

[4] "Cosmological Constraints from μE cross-correlations" Utrecht University, 09/2016

[3] "Cosmological Constraints from μE cross-correlations" Max Planck Institute of Astrophysics, 09/2016

[2] "The cosmic microwave background μ-distortions and primordial gravitational waves", University of Nagoya, 09/2014

[1] "CMB μ distortion and primordial gravitational waves" Joint Seminar, Tokyo Institute of Technology, 05/2014

PRIZE AND AWARDS

[4] Overseas Research Fellow of the Japan Society for the Promotion of Science, 01/04/2018 - 31/03/2020

[3] Research Fellow of the Japan Society for the Promotion of Science (PD), 01/04/2017 - 31/03/2018

[2] Research Fellow of the Japan Society for the Promotion of Science (DC2), 01/04/2016 - 31/03/2017

[1] Vice valedictorian, Department of Physics, Tokyo Institute of Technology, 03/2012

FUNDINGS

[1] Grant-in-Aid for JSPS Fellows, Project/Area Number: 16J03220, Project Period (FY) 22/04/2016 - 31/02/2018, Fiscal Year 2017 : 1,430,000JPY (Direct Cost : 1,100,000JPY, Indirect Cost : 330,000JPY) Fiscal Year 2016 : 1,200,000JPY (Direct Cost : 1,200,000JPY)

SUPERVISING AND MENTORING ACTIVITIES

[2] (Unofficial) supervision of a Master student, Tokyo Institute of Technology, 2017 - 2018

[1] Teaching assistant, Tokyo Institute of Technology, Mechanics, Electromagnetism, Analytical Mechanics, 10/2011 - 03/2017