Yosuke Kobayashi

Contact information

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Education

The University of Tokyo, Kavli IPMU — Kashiwa, Japan
Doctor of Philosophy, Department of Physics, Advisor: Prof. Masahiro Takada — *April 2018 – March 2021*

The University of Tokyo, Kavli IPMU — Kashiwa, Japan
Master of Science, Department of Physics, Advisor: Prof. Masahiro Takada — *April 2016 – March 2018*

The University of Tokyo — Tokyo, Japan
Bachelor of Science, Department of Physics — *April 2014 – March 2016*

The University of Tokyo — Tokyo, Japan
College of Arts and Sciences, Science 1 — *April 2012 – March 2014*

Publications

Leading Contributions

- **Yosuke Kobayashi**, Takahiro Nishimichi, Masahiro Takada, Ryuichi Takahashi, and Ken Osato, "Accurate emulator for the redshift-space power spectrum of dark matter halos and its application to galaxy power spectrum", Phys. Rev. D 102, 063504 (2020)
- **Yosuke Kobayashi**, Takahiro Nishimichi, Masahiro Takada, and Ryuichi Takahashi, "Cosmological information content in redshift-space power spectrum of SDSS-like galaxies in the quasinonlinear regime up to $k = 0.3\ h\,\mathrm{Mpc}^{-1}$", Phys. Rev. D 101, 023510 (2020)

Collaborative Contributions

- Hironao Miyatake, **Yosuke Kobayashi**, Masahiro Takada, Takahiro Nishimichi, Masato Shirasaki, Sunao Sugiyama, Ryuichi Takahashi, Ken Osato, Surhud More, and Youngsoo Park, "Cosmological inference from emulator based halo model I: Validation tests with HSC and SDSS mock catalogs", arXiv:2101.00113, in review with Phys. Rev. D
- Jingjing Shi, Toshiki Kurita, Masahiro Takada, Ken Osato, **Yosuke Kobayashi**, and Takahiro Nishimichi, "Power Spectrum of Intrinsic Alignments of Galaxies in IllustrisTNG", Journal of Cosmology and Astroparticle Physics, Volume 2021 (2021)
- Toshiki Kurita, Masahiro Takada, Takahiro Nishimichi, Ryuichi Takahashi, Ken Osato, and **Yosuke Kobayashi**, "Power spectrum of halo intrinsic alignments in simulations", Monthly Notices of the Royal Astronomical Society, Volume 501, Issue 1 (2021)
- Sunao Sugiyama, Masahiro Takada, **Yosuke Kobayashi**, Hironao Miyatake, Masato Shirasaki, Takahiro Nishimichi, and Youngsoo Park, "Validating a minimal galaxy bias method for cosmological parameter inference using HSC-SDSS mock catalogs", Phys. Rev. D 102, 083520 (2020)
- Tomomi Sunayama, Youngsoo Park, Masahiro Takada, **Yosuke Kobayashi**, Takahiro Nishimichi, Toshiki Kurita, Surhud More, Masamune Oguri, and Ken Osato, "The impact of projection effects on cluster observables: stacked lensing and projected clustering", Monthly Notices of the Royal Astronomical Society, Volume 496, Issue 4 (2020)
- Takahiro Nishimichi, Masahiro Takada, Ryuichi Takahashi, Ken Osato, Masato Shirasaki, Taira Oogi, Hironao Miyatake, Masamune Oguri, Ryoma Murata, **Yosuke Kobayashi**, and Naoki Yoshida, "Dark Quest. I. Fast and Accurate Emulation of Halo Clustering Statistics and Its Application to Galaxy Clustering", The Astrophysical Journal 884, 29 (2019)

Conferences

Talk

- Yosuke Kobayashi, Takahiro Nishimichi, Masahiro Takada & Ryuichi Takahashi, "Development of the accurate emulator for the redshift-space power spectrum of dark matter halos", PTchat@Kyoto, Kyoto, April 2019

Poster

- Yosuke Kobayashi, Takahiro Nishimichi, Masahiro Takada & Ryuichi Takahashi, "Development of the accurate emulator for the redshift-space power spectrum of dark matter halos", Accelerating Universe in the Dark, Kyoto, March 2019

Seminar Talks

- "An accurate modeling of the non-linear halo power spectrum in redshift space", Yukawa Institute for Theoretical Physics, Kyoto University, April 2019
- "Cosmological information content in the redshift-space power spectrum of SDSS-like galaxies", Kavli Institute for the Physics and Mathematics of the Universe, The University of Tokyo, August 2019

Fellowship

- Advanced Leading Graduate Course for Photon Science (ALPS), The University of Tokyo, September 2016-

Technical Skills

Languages: Python, C/C++, shell, LaTeX
Developer Tools: GitHub, GitLab
Libraries: NumPy, Scipy, Matplotlib, scikit-learn, george, PyTorch, GNU Scientific Library