

# Yan Gong

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## EDUCATION

- 09/2005 – 07/2010    National Astronomical Observatories, CAS (NAOC)  
Degree title: Ph.D (Astrophysics)
- 09/2001 – 07/2005    University of Jinan, China  
Degree title: B.S. (Physics)

## JOB HISTORY

- 03/2015 – Present    NAOC, CAS  
Professor
- 08/2010 – 01/2015    University of California, Irvine (UCI)  
Postdoctoral fellow

## RESEARCH INTERESTS

Dark matter, dark energy, intensity mapping of emission lines, extragalactic background light, large scale structure, model constraint.

## PROJECTS

- CSST: Chinese Space Station Telescope
- SPHEREx: Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer
- CIBER: Cosmic Infrared Background Experiment
- Tianlai: 天籟计划 (NAOC)
- TIME: Tomographic Ionized-Carbon Mapping Experiment
- LSST: Large Synoptic Survey Telescope
- SKA: The Square Kilometer Array
- HerMES: Herschel Multi-tiered Extragalactic Survey

## PUBLICATIONS

- 1) "Testing the axion-conversion hypothesis of 3.5 keV emission with polarization", **Yan Gong**, Xuelei Chen and Hua Feng, PRL accepted, arXiv: 1612.05697 (2016)
- 2) "Intensity mapping of H-alpha, H-beta, [OII] and [OIII] lines at  $z < 5$ ", **Yan Gong** et al., ApJ accepted, arXiv: 1610.09060 (2016)
- 3) "Axion decay and anisotropy of near-IR extragalactic background light", **Yan Gong**, Asantha Cooray et al., ApJ, 825, 2 (2016).
- 4) "Cosmological constraint on Brans-Dicke Model", Ji-Xia Li, Feng-Quan Wu, Yi-Chao Li, **Yan Gong** & Xue-Lei Chen, accepted by RAA, arXiv:1511.05280.
- 5) "Consistency test on the cosmic evolution", **Yan Gong**, Yin-Zhe Ma, Shuang-Nan Zhang and Xuelei Chen, PRD, 92, 063523 (2015).
- 6) "Design and Fabrication of TES Detector Modules for the TIME-Pilot [CII] Intensity Mapping Experiment", J. Hunacek, J. Bock, C. M. Bradford et al., Journal of Low Temperature Physics, pp 1-6 (2015).
- 7) "Cross-correlation of Near- and Far-infrared Background Anisotropies as Traced by Spitzer and Herschel", Cameron Thacker, **Yan Gong**, Asantha Cooray et al., ApJ, 811, 125 (2015).
- 8) "Ultraviolet luminosity density of the universe during the epoch of reionization", Ketrin Mitchell-Wynne, Asantha Cooray, **Yan Gong** et al., Nature Communications, 6, 7945 (2015).
- 9) "Synergy of CO/[CII]/Ly $\alpha$  Line Intensity Mapping with the SKA", Tzu-Ching Chang, **Yan Gong**, Mario Santos, Marta Silva, James Aguirre, Olivier Doré and Jonathan Pritchard, Proceedings of Advancing Astrophysics with the Square Kilometre Array (AASKA14). 9 -13 June, 2014. Giardini Naxos, Italy. Online at <http://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=215>, id.4
- 10) "Prospects for detecting CII emission during the Epoch of Reionization", Marta B. Silva, Mário G. Santos, Asantha Cooray & **Yan Gong**, ApJ, 806, 209 (2015).

- 11) "Cosmology with the SPHEREX All-Sky Spectral Survey", Olivier Doré, Jamie Bock, Matthew Ashby et al., arXiv:1412.4872.
- 12) "On the origin of near-infrared extragalactic background light anisotropy", Michael Zemcov, Joseph Smidt, Toshiaki Arai, James Bock, Asantha Cooray, **Yan Gong** et al., *Science*, 346, 732-735 (2014).
- 13) "The TIME-Pilot intensity mapping experiment", Crites, A. T.; Bock, J. J.; Bradford, C. M. et al., *Proceedings of the SPIE*, Volume 9153, id. 91531W 9 pp. (2014).
- 14) "Foreground contamination in Ly-alpha intensity mapping during the epoch of reionization", **Yan Gong** et al., *ApJ*, 785, 72 (2014).
- 15) "The extragalactic background light from the measurements of the attenuation of high-energy gamma-ray spectrum", **Yan Gong** & Asantha Cooray, *ApJL*, 772, L12 (2013) .
- 16) "Probing the Pre-Reionization Epoch with Molecular Hydrogen Intensity Mapping", **Yan Gong**, Asantha Cooray & Mario Santos, *ApJ*, 768, 130 (2013).
- 17) "Intensity Mapping of Lyman-alpha Emission During the Epoch of Reionization", Marta Silva, Mario G. Santos, **Yan Gong** & Asantha Cooray, *ApJ*, 763, 132 (2013).
- 18) "Near-infrared background anisotropies from diffuse intrahalo light of galaxies", A. Cooray, J. Smidt, F. De Bernardis, Yan Gong et al., *Nature*, 494, 514 (2012).
- 19) "Observational constraints on cosmic neutrinos and dark energy revisited", Xin Wang, Xiao-Lei Meng, Tong-Jie Zhang, HuanYuan Shan, **Yan Gong**, Charling Tao, Xuelei Chen & Y. F. Huang, *JCAP*, 11, 018 (2012).
- 20) "The Near-IR Background Intensity and Anisotropies During The Epoch of Reionization", Asantha Cooray, **Yan Gong** (corresponding author) et al., *ApJ*, 756, 92 (2012).
- 21) "The Herschel Multi-tiered Extragalactic Survey: HerMES", HerMES Collaboration, *MNRAS*, 424, 1614 (2012).

- 22) "HerMES: A Statistical Measurement of the Redshift Distribution of Herschel-SPIRE Sources Using the Cross-correlation Technique", K. Mitchell-Wynne, A. Cooray, **Yan Gong** (corresponding author) et al., ApJ, 753, 23 (2012).
- 23) "Intensity Mapping of the [CII] Fine Structure Line during the Epoch of Reionization", **Yan Gong** et al., ApJ, 745, 49 (2012).
- 24) "The OH line contamination of 21 cm intensity fluctuation measurements for  $z=1\sim 4$ ", **Yan Gong** et al., ApJL, 740, L20 (2011).
- 25) "Cosmological models with Lagrange Multiplier Field", Changjun Gao, **Yan Gong**, Xin Wang & Xuelei Chen, Phys. Lett. B, 702, 107-113 (2011).
- 26) "HerMES: detection of cosmic magnification of submillimetre galaxies using angular cross-correlation", L. Wang et al., MNRAS, 414, 596 (2011)
- 27) "Probing Reionization with Intensity Mapping of Molecular and Fine Structure Lines", **Yan Gong** et al., ApJL, 728, L46 (2010).
- 28) "Couplings between holographic dark energy and dark matter", Yin-Zhe Ma, **Yan Gong** & Xuelei Chen, EPJC, 69, 509 (2010).
- 29) "Cosmological Constraints on the Undulant Universe", Tian Lan, **Yan Gong**, Hao-Yi Wan, Tong-Jie Zhang, Res. Astron. Astrophys., 10, 1109 (2010).
- 30) "Cosmology with Photometric Surveys of Type Ia Supernovae", **Yan Gong**, Asantha Cooray & Xuelei Chen, ApJ, 709, 1420-1428 (2010).
- 31) "Primordial Non-Gaussianity from LAMOST Surveys", **Yan Gong**, Xin Wang, Zheng Zheng & Xuelei Chen, Res. Astron. Astrophys., 10, 107-115 (2010).
- 32) "Cosmological Implications of 5-dimensional Brans-Dicke Theory", Li-e Qiang, **Yan Gong**, Yongge Ma & Xuelei Chen, Phys.Lett.B, 681, 210 (2009).
- 33) "Features of holographic dark energy under the combined cosmological constraints", Yin-Zhe Ma, **Yan Gong** (corresponding author) & Xuelei Chen, Eur.Phys.J.C, 60, 303-315 (2009).
- 34) "Cosmological constraints on unparticle dark matter", **Yan Gong** & Xuelei Chen, Eur.Phys.J.C, 57, 785-789 (2008).

- 35) "Cosmological Constraints on Invisible Decay of Dark Matter", **Yan Gong** & Xuelei Chen, Phys.Rev.D, 77, 103511 (2008).
- 36) "Phenomenological models of dark energy", Changjun Gao, **Yan Gong** & Xuelei Chen, AIP Conf.Proc., 966, 155-162 (2008).
- 37) "Two Component Model of Dark Energy", **Yan Gong** & Xuelei Chen, Phys.Rev.D, 76, 123007 (2007).