

## ■ FIRST-AUTHORED PAPERS

1. *Ultra-diffuse galaxies in the Auriga simulations*  
**Shihong Liao**, Liang Gao, Carlos S. Frenk, Robert J. J. Grand, Qi Guo, Facundo A. Gómez, Federico Marinacci, Rüdiger Pakmor, Shi Shao, Volker Springel, 2019, MNRAS, 490, 5182 (arXiv:1904.06356)
2. *Impact of filaments on galaxy formation in their residing dark matter haloes*  
**Shihong Liao**, Liang Gao, 2019, MNRAS, 485, 464 (arXiv:1805.10944)
3. *An alternative method to generate pre-initial conditions for cosmological N-body simulations*  
**Shihong Liao**, 2018, MNRAS, 481, 3750 (arXiv:1807.03574)
4. *The segregation of baryons and dark matter during halo assembly*  
**Shihong Liao**, Liang Gao, Carlos S. Frenk, Qi Guo, Jie Wang, 2017, MNRAS, 470, 2262 (arXiv:1610.07592)
5. *A universal angular momentum profile for dark matter halos*  
**Shihong Liao**, Jianxiong Chen, M.-C. Chu, 2017, ApJ, 844, 86 (arXiv:1612.00117)
6. *Angular momentum - mass relation for dark matter halos*  
**Shihong Liao**, Dalong Cheng, M.-C. Chu, Jiayu Tang, 2015, ApJ, 809, 64 (arXiv:1412.3515)

## ■ CO-AUTHORED PAPERS

7. *Searching for primordial black holes with stochastic gravitational-wave background in the space-based detector frequency band*  
Yi-Fan Wang, Qing-Guo Huang, Tjonnie G. F. Li, **Shihong Liao**, 2020, accepted by Phys. Rev. D (arXiv:1910.07397)
8. *Distribution-based particle data reduction for in-situ analysis and visualization of large-scale N-body cosmological simulations*  
Guan Li, Jiayi Xu, Tianchi Zhang, Guihua Shan, Han-Wei Shen, Ko-Chih Wang, **Shihong Liao**, ZhongHua Lu, 2020, accepted by PacificVis 2020
9. *Further evidence for a population of dark matter-deficient dwarf galaxies*  
Qi Guo, Huijie Hu, Zheng Zheng, **Shihong Liao**, Wei Du, Shude Mao, Linhua Jiang, Jing Wang, Yingjie Peng, Liang Gao, Jie Wang, Hong Wu, 2020, Nature Astronomy, 4, 246 (arXiv:1908.00046)
10. *HIKER: a halo-finding method based on kernel-shift algorithm*  
Shuangpeng Sun, **Shihong Liao**, Qi Guo, Qiao Wang, Liang Gao, 2019, accepted by Research in Astronomy and Astrophysics (arXiv:1909.13301)
11. *Dark-matter-deficient galaxies in hydrodynamical simulations*  
Yingjie Jing, Chunxiang Wang, Ran Li, **Shihong Liao**, Jie Wang, Qi Guo, Liang Gao, 2019, MNRAS, 488, 3298 (arXiv:1811.09070)

12. *The optimal gravitational softening length for cosmological N-body simulations* [Co-supervised PhD project]  
Tianchi Zhang, **Shihong Liao**, Ming Li, Liang Gao, 2019, MNRAS, 487, 1227 (arXiv:1810.07055)
13. *The first constraint from SDSS galaxy–galaxy weak lensing measurements on interacting dark energy models*  
Jiajun Zhang, Rui An, Wentao Luo, Zhaozhou Li, **Shihong Liao**, Bin Wang, 2019, ApJL, 875, L11 (arXiv:1807.05522)
14. *Fully self-consistent cosmological simulation pipeline for interacting dark energy models*  
Jiajun Zhang, Rui An, **Shihong Liao**, Wentao Luo, Zhaozhou Li, Bin Wang, 2018, Phys. Rev. D, 98, 103530 (arXiv:1811.01519)
15. *A universe of ultra-diffuse galaxies: theoretical predictions from the  $\Lambda$ CDM simulation*  
Yu Rong, Qi Guo, Liang Gao, **Shihong Liao**, Lizhi Xie, Thomas H. Puzia, Shuangpeng Sun, Jun Pan, 2017, MNRAS, 470, 4231 (arXiv:1703.06147)