

Curriculum vitae

Personal

Name: Liang Gao
Nationality: Chinese

Education

1998 Master in theoretical Physics (Nonlinear dynamics and Chaos).
Department of Physics, Lanzhou University.
Thesis topic: “The global dynamics of the Hénon map”.
Advisor: Wang Y.-H. & Zhao H.

2004 PhD at Physics department, Ludwig-Maximilians-Universität München
Thesis topic: “On the evolution of small scale Cosmic structure”.
Advisor: Simon. D. M. White

Work experience

2008 STFC Advanced research fellow

2005–2008 PostDoc. at ICC of Durham University

2001–2005 Phd fellowship at Max-Planck-Institut für Astrophysik

1998–2001 Research assistant in division of Petroleum Reservoir, Institute of Geophysics, Chinese Academy of Sciences

Research interest

1. structure/star formation at high redshift
2. Large and Small scale structure of Universe
3. Galactic structure and dynamics
4. structure, formation and evolution of galaxies
5. Nature of dark matter
6. Parallel computing, code development and optimization

Publications

1. *The redshift dependence of the structure of massive LCDM halos*
Gao L., Navarro F. J., Cole S., Frenk C. S., Springel V., Jenkins A., Neto A. F., 2008, MNRAS, 387, 536
2. *Massloss of galaxies due to a UV-background*
Okamoto T., **Gao L.**, Theuns T., 2008, MNRAS, arxiv:0806.0378
3. *On Halo Formation Times and Assembly Bias*
Li Y., Mo H. J., **Gao L.**, 2008, MNRAS submitted, arxiv:0803.2250
4. *The nature of CO emission from $z \sim 6$ quassars*
Narayanan D. et al., 2008, ApJS, 174, 13
5. *Virial Scaling of Massive Dark Matter Halos: Why Clusters Prefer a High Normalization Cosmology*
Evrvard et al., 2008, ApJ, 672, 122
6. *Lighting the Universe with filaments*
Gao L., Theuns T., 2007, Science, 317, 1527 (FRONT cover of the September 14th issue).
7. *The statistics of LCDM Halo Concentrations*
Neto A. F., **Gao L.**, Bett P., Cole S., Navarro J. F., Frenk C. S., White S. D. M., Springel V., 2007, MNRAS, 381, 1450
8. *The first generation of stars in the LCDM Universe*
Gao L., Yoshida N., Abel T., Frenk C. F., Jenkins A., Springel V., 2007, MNRAS, 378, 449
9. *Assembly bias in the clustering of dark matter haloes*
Gao L., White S. D. M., 2007, MNRAS, 377, 5L
10. *Formation of $z \sim 6$ quasars from hierarchical galaxy mergers*
Li Yuexing, Hernquist L., Roberston B., Cox T. J., Hopkins P. F., Springel V., **Gao L.**, Di Matteo T., Zentner A. R., Jenkins A., Yoshida N., 2007, ApJ, 665, 187
11. *The giant arc statistics in the three year WMAP cosmological model*
Li G. L., Mao S., Jing Y. P., Mo H. J., **Gao L.**, Lin W. P., 2006, MNRAS, 372, L73
12. *Asymmetries in the inner regions of LCDM haloes*
Liang Gao, Simon D. M. White, 2006, MNRAS, 373, 65
13. *Halo assembly bias and its effects on galaxy clustering*
Croton D. J., **Gao L.**, White S. D. M., 2007, MNRAS, 374, 1303
14. *The Influence of Baryons on the Mass Distribution of Dark Matter Halos*
Lin W. P., Jing Y. P., Mao S., **Gao L.**, McCarthy I. G., 2006, ApJ, 651, 636

-
15. *The Influence of Baryons on the Clustering of Matter and Weak-Lensing Surveys*
Jing, Y. P., Zhang P. J., Lin W. P., **Gao L.**, Springel V., 2006, ApJL, 640, 119
 16. *The Dependence of the Occupation of Galaxies on the Halo Formation Time*
Zhu G., Zheng Z., Lin W. P., Jing Y.P., Kang X., **Gao, L.**, 2006, ApJL, 639, 5
 17. *The many lives of AGN: cooling flows, black holes and the luminosities and colours of galaxies*
Darren J. Croton, Volker Springel, Simon D. M. White, G. De Lucia, C. S. Frenk, **L. Gao**, A. Jenkins, G. Kauffmann, J. F. Navarro, N. Yoshida, 2006, MNRAS, 365, 11
 18. *The age dependance of halo clustering*
Liang Gao, Volker Springel, Simon D. M. White, 2005, MNRAS, 363, 66L
 19. *Simulating the joint evolution of quasars, galaxies and their large-scale distribution*
V. Springe, S. D. M. White, A. Jenkins, C. S. Frenk, N. Yoshida, **L. Gao**, J. Navarro, R. Thacker, D. Croton, J. Helly, J. A. Peacock, S. Cole, P. Thomas, H. Couchman, A. Evard, J. Colberg, F. Pearce, 2005, Nature, 435, 629
 20. *The First Generation of Star-Forming Haloes*
D. Reed, R. Bower C. S. Frenk, **L. Gao**, A. Jenkins, T. Theuns, 2005, MNRAS, 363, 393
 21. *Early structure in Λ CDM*
Liang Gao, Simon D. M. White, Adrian Jenkins, Carlos Frenk, Volker Springel, 2005, MNRAS, 363, 379
 22. *Are great disk defined by satellite galaxies in Milky-Way Type Halos Rare in Λ CDM*
X. Kang,, S. Mao, **L. Gao**, Y. P. Jing, 2005, A&A, 437, 383
 23. *Voids in a Λ CDM Universe*
Jörg M. Colberg, Ravi K. Sheth, Antonaldo Diaferio, **Liang Gao**, Naoki Yoshida, 2005, MNRAS, 360, 216
 24. *Galaxies and subhaloes in Λ CDM clusters*
Liang Gao, G. De Lucia, Simon. D. M. White, Adrian Jenkins, 2004, MNRAS, 352, L1
 25. *The subhalo populations of Λ CDM dark haloes*
Liang Gao, Simon. D. M. White, Adrian Jenkins, Felix Stoehr, Volker Springel, 2004, MNRAS, 355, 819
 26. *Early Formation and Late Merging of the Giant Galaxies*
Liang Gao, Abraham Loeb, P. J. E. Peebles, Simon D. M. White, Adrian Jenkins , 2004, ApJ, 614, 17
 27. *Implementation of 3D wave equation depth prestack on a Beowulf-cluster*
Hui Yang, **Liang Gao**, Hong Liu, Xing. C. Fan, 2001, Geophysical Prospecting

28. *An attempt to seismic ray tracing with Symplectic algorithm*
Liang Gao, You .M. Li, Xu .R. Chen, Kong. Q. Yang, 2000, Chinese Journal of Geophysics, 43, 3
29. *Synchronization of hyper chaotic harmonics in time-delay system and its application to secure communication*
Y. W. Liu, G. M. Ge, Hong Zhao, Y. H. Wang, **Liang Gao**, 2000, Phy. Rev.E 62, 6, 2000

In preparation

Other publications

1. *The description and simulation of the propagation of seismic wave with Hamilton theory*,
You M. Li, **Liang Gao**, Yu Cao, Kong Q. Yang, 2000, The proceeding of CCST workshop
-