CURRICULUM VITAE

Name:	**Pengjie Zhang**
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Date of Birth:	14^{th} February 1975
Nationality:	China

Education:

Ph.D., 2003	Department of Astronomy & Astrophysics University of Toronto *(Supervisor: Ue-Li Pen)* Thesis title: *'Searching for missing baryons'*
Ph.D. study,1997-1998	Department of physics & Astronomy University of Massachusetts, Amherst
B.Sc., 1997	Department of Geophysics Peking University

Research:

2003.2-present	Research associate Fermilab theoretical astrophysics group

Refereeship: ApJ

Research Interests:

Theoretical cosmology: the large scale structure of the universe, including cosmic microwave/Infrared/X-ray/γ-ray/neutrino/21 cm backgrounds, gravitational lensing, galaxy and cluster peculiar velocity, the cosmic star formation history, numerical simulation, etc.

Publications

1. *Precision measurement of cosmic magnification from 21 cm emitting galaxies.* **Zhang, Pengjie** & Pen, Ue-Li, 2005, astro-ph/0504551

2. *Second Order Geodesic Corrections to Cosmic Shear.* Dodelson, S.; Kolb, E.W.; Matarrese, S.; Riotto, A. & **Zhang, Pengjie**. 2005, astro-ph/0503160

3. *The Concordance Cosmic Star Formation Rate: Implications from and for the Supernova Neutrino and Gamma Ray Backgrounds.* Strigari, Louis E.; Beacom, John; Walker, Terry & **Zhang, Pengjie**. 2005, astro-ph/0502150

4. *The Weak Lensing Bispectrum.* Dodelson, Scott & **Zhang, Pengjie**. 2005, astro-ph/0501063, submitted to PRD

5. *A new method of measuring the large scale peculiar velocity power spectrum.* **Zhang, Pengjie**; Albert Stebbins; Roman Juszkiewicz; Hume Feldman. 2004, astro-ph/0410637, submitted to ApJL.

6. *Angular Correlations of the MeV Cosmic Gamma-Ray Background.* **Zhang, Pengjie** & Beacom, John F., 2004, ApJ, 614, 37

7. *The temperature of the intergalactic medium and the Compton y parameter.* **Zhang, Pengjie**; Pen, Ue-Li; Trac, Hy. 2004, MNRAS, in press. astro-ph/0402115

8. *The effect of cluster magnetic field on the Sunyaev-Zel'dovich power spectrum* **Zhang, Pengjie**. 2004, MNRAS, 348, 1348

9. *Precision era of the kinetic Sunyaev-Zel'dovich effect: simulations, analytical models and observations and the power to constrain reionization.* **Zhang, Pengjie**; Pen, Ue-Li; Trac, Hy. 2004, MNRAS, 347, 1224

10. *Cross correlations of the cosmic infrared background.* **Zhang, Pengjie**, 2003, astro-ph/0307440, submitted to ApJ.

11. *Optimal Weak-Lensing Skewness Measurements.* Zhang, Tong-Jie; Pen, Ue-Li; **Zhang, Pengjie**; Dubinski, John. 2003, ApJ, 598, 818

12. *Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for* Ω_0. Pen, Ue-Li; Zhang, Tongjie; van Waerbeke, Ludovic; Mellier, Yannick; **Zhang, Pengjie**; Dubinski, John. 2003, ApJ, 592, 664

13. *Measuring Feedback Using the Intergalactic Medium State and Evolution Inferred from the Soft X-Ray Background.* **Zhang, Pengjie** & Pen, Ue-Li, 2003, ApJ, 588, 704

14. *The Sunyaev-Zeldovich effect in CMB-calibrated theories applied to the Cosmic Background Imager anisotropy power at* $l > 2000$. Bond, J.R.; Contaldi, C.R.; Pen, U.L.; Pogosyan, D.; Prunet, S.; Ruetalo, M.I.; Wadsley, J.W.; **Zhang, P.J.**; Mason, B.S.; Myers, S.T.; Pearson, T.J.; Readhead, A.C.S.; Sievers, J.L.; Udomprasert, P.S.. 2002, astro-ph/0205386

15. *The Sunyaev-Zeldovich Effect: Simulations and Observations.* **Zhang, Pengjie**; Pen, Ue-Li; Wang, Benjamin. 2002, ApJ, 577, 555

16. *Friedmann equation and stability of inflationary higher derivative gravity.* Kao, W. F.; Pen, Ue-Li; **Zhang, Pengjie**. 2001, PRD, 6317301

17. *Deprojecting Sunyaev-Zeldovich Statistics.* **Zhang, Pengjie** & Pen, Ue-Li, 2001, ApJ, 549, 18

Talks/Conference proceedings

- *The Sunyaev Zeldovich effect.* 2005, APS April meeting, Tampa
- *Toward precision modeling of the Sunyaev Zeldovich effect.* 2004, 'Fundamental Physics from Galaxy Clusters', Fermilab
- *Cosmic backgrounds and the star formation history.* 2004, Santa Fe cosmology workshop.
- *Precision modeling of the kinetic Sunyaev Zeldovich effect.* 2004, Aspen cosmology conference
- *Measuring the thermal history of the universe by the Sunyaev Zeldovich effect.* 2003, KICP, Univ. of Chicago
- *CMB observations with the Cosmic Background Imager (CBI) Interferometer.* Contaldi, C.R.; Bond, J.R.; Pogosyan, D.; Mason,B.S.; Myers,S.T.; Pearson, T.J.; Pen, U.L.; Prunet, S.; Readhead, A.C.; Ruetalo, M..; Sievers, J.L.; Wadsley, J.W.; Zhang, P.J. 2002, astro-ph/0210303, Proceedings of the XVIII IAP Colloquium 'On the nature of dark energy', Paris, 1-5 July 2002.
- *Cosmological Parameters from CMB measurements with the CBI.* Contaldi, C.R.; Bond, J.R.; Pogosyan, D.; Mason,B.S.; Myers,S.T.; Pearson, T.J.; Pen, U.L.; Prunet, S.; Readhead, A.C.; Ruetalo, M..; Sievers, J.L.; Wadsley, J.W.; Zhang, P.J. 2002, astro-ph/0208410, Proceedings of the XXXVIIth Moriond Astrophysics Meeting "The Cosmological Model"
- *Hydrodynamical Simulations of the IGM at High Mach Numbers.* Hy Trac, Pengjie Zhang, Ue-Li Pen, 2002, astro-ph/0210137, Proc. from the IGM/Galaxy Connection conference.
- *The Thermal Sunyaev Zel'dovich effect : a powerful probe for missing baryons*, Zhang, Pengjie & Pen, Ue-Li, 2001, astro-ph/0111258, The 8th Taipei Astrophysics Workshop: AMiBA 2001: High-z Clusters, Missing Baryons, and CMB Polarization.