Ka Ho Yuen

PhD Student in Astronomy, UW Madison
Fulbright Fellow 2016
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Research interests

Magnetic field tracing, Analytical and numerical MHD Turbulence, Grain Alignment, Star Formation, Cosmology

Publications

Recent Publications:

1. Hu, Y., **Yuen, K.H.** & Lazarian, V., et.al *Magnetic field morphology in interstellar clouds with the velocity gradient technique*, Nature Astronomy, 2019, DOI:10.1038/s41550-019-0769-0
2. Zhang, J. et.al, *Tracing Magnetic Field with Synchrotron Polarization Gradients: Parameter Study*, MNRAS, 2019, DOI:https://doi.org/10.1093/mnras/stz1176
3. Hu, Y., **Yuen, K.H.** & Lazarian, A, et.al *Tracing Multi-Scale Magnetic Field Structure Using Multiple Chemical Tracers in Giant Molecular Clouds*, submitted to ApJ, 2019, arXiv: 1904.04391
4. *Yuen, K.H.* ; Hu, Y; Lazarian, A.; Pogosyan, D., *Comment on Clark et al. (2019) "The Physical Nature of Neutral Hydrogen Intensity Structure"*, submitted to ApJ, 2019, arXiv: 1904.03173
5. Hsieh, C-h, Hu, Y, Lai, S-p, **Yuen, K.H.**, et.al, *Tracing Magnetic Field Morphology Using the Velocity Gradient Technique in the Presence of CO Self-absorption*, ApJ, 2019, DoI: https://doi.org/10.3847/1538-4357/ab0376
6. Ho, K. W.; *Yuen, K.H.*; Leung, P.K.; Lazarian, A., *A comparison between Faraday Tomography and Synchrotron Polarization Gradients*, submitted to ApJ, arXiv: 1901.07731
7. **Yuen, K.H**, Chen, J. Hu. Y, et.al. *Statistical tracing of magnetic fields: comparing and improving the techniques*, ApJ, 2018, DoI: https://doi.org/10.3847/1538-4357/aada88
8. Hu, Y., **Yuen, K.H.** & Lazarian A., *Improving Velocity Gradient Technique with Principal Component Analysis*, MNRAS, 2018, DoI: https://doi.org/10.1093/mnras/sty1807
9. Lazarian.A; **Yuen, K.H.**, Ho, K.W. et. al; *Dispersion of velocity gradients: Mapping magnetization with the Velocity Gradient Technique*, ApJ, 2018, DoI: https://doi.org/10.3847/1538-4357/aad7ff
10. Lazarian.A & **Yuen, K.H.**, *Tracing 3D distribution of magnetic fields with gradients of synchrotron polarization*, ApJ, 2018, DoI: https://doi.org/10.3847/1538-4357/aad3ca
11. Lazarian.A; **Yuen, K.H.** *"Tracing magnetic field using spectroscopic channel gradients"*, ApJ, 2018, DoI:https://doi.org/10.3847/1538-4357/aaa241
12. **Yuen, K.H.** & Lazarian A.,*"Velocity gradient as a tracer of magnetic field: Alignments in shock and self-gravitating regions"* ApJ, submitted, 2017, arXiv:1703.03026

13. Lazarian, A.;**Yuen, K.H.**; Lee,H.; Cho, J, *"Synchrotron intensity gradient as a tracer of magnetic field"*, ApJ, 2017, DoI: https://doi.org/10.3847/1538-4357/aa74c6
14. **Yuen, K.H.** & Lazarian,A. *"Velocity gradient as a tracer of magnetic field: Application to diffuse HI data"*, ApJL, 2017, arXiv:1701.07944
15. Li, H.-b.; **Yuen, K. H.** et. al, Nature 2015, DoI: https://doi.org/10.1038/nature14291

Awards

2016 Fulbright Fellow
2014 C.N. Yang scholarship (Postgraduate)
2012 New Asia 1977 scholarship
2010 C.N. Yang scholarship (Undergraduate)

Recent invited/awarded conference talks

Nov 2015, "The 1st Hong Kong Astrophysics Conference", Hong Kong, **awarded best presenter**
Jun 2016, "The 2016 Cross strait conference in physical Science, Shanghai, **awarded best presenter**
May 2017, "Midwest Magnetic field Workshop"[1], Madison, WI
Oct 2017, "Magnetic Fields in the Universe VI: from Laboratory and Stars to the Primordial Structures"[2], Natal, Brazil (Invited speaker)
Nov-Dec 2017, "CMB foregrounds workshop"[3] San Diego, CA (Invited speaker)
May 2018, "Midwest Magnetic field Workshop"[4], Madison, WI
Oct 2018, "The Eighth East Asian Numerical Astrophysics Meeting"[5], Tainan, Taiwan
Nov 2018, "First TagKASI International Conference: Cosmic Dust and Magnetism"[6], Daejeon, S.Korea
Jan 2019, "Big Apple Magnetic Field Workshop"[7], New York, USA
May 2019, "Midwest Magnetic field Workshop"[8], Madison, WI (as LOC)

Referees

Additional information can be obtained from

1. Alex Lazarian, Professor
   Thesis Supervisor
   Department of Astronomy, University of Wisconsin
   475 North Charter Street, 5534 Sterling Hall, Madison, Wisconsin 53706
   Email: alazarian@facstaff.wisc.edu, Tel: (608) 262 1715
2. Jungyeon Cho, Professor
   Department of Astronomy and Space Science, Chungnam National University
   532, W11-2 building,Chungnam Natl Univ., Daejeon, South Korea
   Email: jcho@cnu.ac.kr
3. Dmitri Pogosyan, Professor
   Department of Physics University of Alberta
   2-105 CCIS-Physics,11335 Saskatchewan Dr NW, Edmonton, AB T6G 2M9, Canada
   Email: pogosyan@ualberta.ca, Tel: (780) 492-2150

[1] http://www.astro.wisc.edu/mmf/2017/
[2] http://www5.each.usp.br/web/prof/mfuvi/
[3] http://cmbworkshop2017.ucsd.edu/index.html
[4] http://www.astro.wisc.edu/mmf/2018/
[5] http://events.asiaa.sinica.edu.tw/conference/20181022/program.php
[6] http://coma.kasi.re.kr/cosdm2018/home.html
[7] https://indico.flatironinstitute.org/event/28/
[8] http://www.astro.wisc.edu/mmf/2019/