

CHARLES C. H. JUI

CONTACT INFORMATION:

Utah High Energy Astrophysics Institute
University of Utah
115 S. 1400 E. #201
Salt Lake City, Utah 84112-0830

Phone: (801)-581-7186
Email: jui@cosmic.utah.edu

EDUCATION:

University of Ottawa, Canada	Physics	B.Sc. 1985
Stanford University	Physics	M.Sc. 1987
	Physics	Ph.D. 1992

PROFESSIONAL EXPERIENCE:

Dept. of Physics, Stanford University	Research Assistant (1985-1992)
Physics Dept., University of California, Riverside	Research Associate (1992-1994)
Department of Physics, University of Utah	Professor (2005-present)
	Associate Professor (2000-2005)
	Assistant Professor (1994-2000)

Awards:

Honors Professor, 2013-2014
College of Science Professor, 2013-2014

Research:

- full-time member of the High Resolution Fly's Eye Experiment (HiRes- a collaboration of University of Utah, Columbia University, University of Adelaide, Rutgers University, University of Montana, University of Tokyo) 1994-2007
- Project Leader of the HiRes-1 site (1997-2006) operations and data analysis.
- Co-Principal Investigator of HiRes since September, 1998-2007
- Collaboration with University of Chicago on the Broad Lateral Non-imaging Cerenkov Array (BLANCA) to study the composition of cosmic rays
- PI of the Fluorescence in Air from Showers (FLASH) experiment (2002-2007)
- Acting leader/PI of Utah HiRes group (2002-2006)
- co-PI of the Telescope Array Experiment, University of Utah (2007-present)

SYNERGISTIC ACTIVITIES: Project Leader of ASPIRE Science in Service Program (Web based educational lessons for 6th-12th grade students).

Teaching at University of Utah

1994-1995 PHYSICS 671—graduate laboratory

1995-1998 PHYSICS 321H,322H,323H – Honors Introductory Physics

1997-1999 Professional Training Courses for local Science Teachers

1998-2000 PHYSICS 5450,5460 – Introduction to Quantum and Statistical Mechanics

2000-2003 PHYSICS 2210 – Physics for Scientists and Engineers I.

Summer 2004-present UGS 1430 – General Science for ACCESS women in science.

Fall 2004-2006 PHYSICS 4410 – Classical Physics I: Classical Dynamics

Spring 2005-2006 PHYSICS 4420 – Classical Physics II: Electrodynamics

Fall 2007 PHYSICS/HONORS 3375 –Women in Physics and Their Scientific Contributions

Spring 2008-2009 PHYSICS 3620/6620 – Electronics II

Fall 2008 PHYSICS 2220 – Physics for Scientists and Engineers II.

Spring 2009 PHYSICS 5110 – Intro. to Nuclear and Particle Physics

Spring 2011-2013 PHYSICS 2020 – General Physics II

Spring 2014 PHYSICS/HONORS 3030 – Discovering Complex Systems

Spring 2015 PHYSICS 2210 Physics for Scientists and Engineers I. Sections 1, 6

Fall 2015 PHYSICS 2210 Physics for Scientists and Engineers I. Sections 1, 10

Spring 2016 PHYSICS 3620/6620 Electronics II Data Acquisition and Scientific Instrumentation

Selected peer-reviewed publications

1. C.C.H. Jui, W.R. McKinnon, J.R. Dahn, “*Chemical-potential Measurement and Phase Diagrams of a Pseudoternary solid: $\text{LixCuYMo}_6\text{S}_8$* ”, Phys. Rev. Lett. **54**, 1432 (1985).
2. V. Armijo, K. Black, R.D. Bolton, S. Carius, M.D. Cooper, C. Espinoza, G. Hart, G.E. Hogan, G. Ludwig, R.E. Mischke, L. Piilonen, S. Stanislaus, J. Sandoval, D.A. Whitehouse, C. Wilkinson, C.C.H. Jui, “*A Fast MWPC with Cathode Strips and Utilizing CF_4 -isobutane*”, Nucl. Inst. and Meth. **A303**, 298 (1991).
3. P.D. Acton *et al.*, (OPAL Collaboration) “*A Study of the Differences Between Quark and Gluon Jets Using Vertex Tagging of Quark Jets*”, Z. Phys. **C58**, 387-403 (1993).
4. R. Akers *et al.*, (OPAL Collaboration) “*A measurement of the QCD color factor ratios CA/CF and TF/CF from angular correlations in four jet events*”, Z. Phys. **C65** 367-377 (1995).
5. NEW LIMIT FOR THE FAMILY NUMBER NONCONSERVING DECAY $\mu^+ \rightarrow e^+ \gamma$. M.L. Brooks (MEGA Collaboration) LAUR-99-2268, May 1999. App. Phys. Rev. Lett. 83 (1999) 1521-1524

6. Measurement of the cosmic ray spectrum and composition at the knee J.W. Fowler, L.F. Fortson, C.C.H. Jui, D.B. Kieda, R.A. Ong, C.L. Pryke, P. Sommers, *Astroparticle Phys.*, 15, (2001) 49.
7. R. U. Abbasi *et al.* (HiRes Collaboration). Measurement of the Flux of Ultrahigh Energy Cosmic Rays from Monocular Observations by the High Resolution Fly' s Eye Experiment (astro-ph/0208243) *Phys.Rev.Lett.*92:151101,2004
8. R. U. Abbasi *et al.* (HiRes Collaboration). Search for Global Dipole Enhancements in the HiRes-I Monocular Data above 1018.5 eV; (astro-ph/ 0309457) *Astropart.Phys.*21: 111,2004
9. B.T.Stokes, C.C. H.Jui and J.N. Matthews. Using Fractal Dimensionality in the Search for Source Models of Ultrahigh-energy Cosmic Rays; (astro-ph/0307491) *Astropart.Phys.*21:95,2004
10. T.Abu-Zayyad, E.C.Loh, C.C.H.Jui. The Effect of Clouds on Air Showers Observation from Space; (astro-ph/0310810) *Astropart.Phys.*21:163-182,2004.
11. J. W. Belz *et al.* (FLASH Collaboration) Comparison of air fluorescence and ionization measurements of E.M. shower depth profiles: test of a UHECR detector technique. *Astropart. Phys.* 25 p.57 (2006)
12. J.W. Belz *et al.* (FLASH Collaboration) Measurement of Pressure Dependent Fluorescence Yield of Air: Calibration Factor for UHECR Detectors. *Astropart. Phys.* 25 p.129 (2006)
13. R. U. Abbasi *et al.* (HiRes Collaboration), First Observation of the Greisen-Zatsepin-Kuzmin Suppression, *Phys. Rev. Lett.* 100, 101101 (2008) (astro-ph/0703099v2)
14. T. Abu-Zayyad *et al.* (TA Collaboration) The Energy Spectrum of Telescope Array Middle Drum Detector and the Direct Comparison to the High Resolution Fly's Eye Experiment. *Astroparticle Physics*, in press, 2012.
15. T. Abu-Zayyad *et al.* (TA Collaboration), "Energy Spectrum of Ultra-High Energy Cosmic Rays Observed with the Telescope Array Using a Hybrid Technique." *Astropart. Phys.*, **61**, 93-101 (2015)
16. R.U.Abbasi *et al.* (TA Collaboration), "Indications of Intermediate-scale Anisotropy of Cosmic Rays with Energy Greater Than 57 EeV in the Northern Sky Measured with the Surface Detector of the Telescope Array Experiment." *Astrophysical Journal Letters* **790**:L21 (2014).
17. R.U.Abbasi *et al.* (TA Collaboration), "Study of Ultra-High Energy Cosmic Ray composition using Telescope Array's Middle Drum detector and surface array in hybrid mode",. *Astropart. Phy.* **64** 49-62, (2015)
18. R.U.Abbasi *et al.* (TA Collaboration), "Measurement of the proton-air cross section with Telescope Array's Middle Drum detector and surface array in hybrid mode", *Phys. Rev. D* **92**, 032007 (2015).
19. R.U.Abbasi *et al.* (TA Collaboration), "The Hybrid Energy Spectrum of Telescope Array's Middle Drum Detector and Surface Array". *Astropart. Phy.* **68** 27-44, (2015).
20. R.U.Abbasi *et al.* (TA Collaboration), "A Northern Sky Survey For Point-Like Sources Of Eev Neutral Particles With The Telescope Array Experiment", *Astrophysical Journal* **804**, 133 (2015).