

**Christopher K. Walker**  
Steward Observatory, University of Arizona, Tucson, AZ 85721

**Education**

- B.S.: Electrical Engineering, Clemson University, 1980  
Graduated with Honors
- M.S.: Electrical Engineering, Ohio State University, 1981  
Advisor: John D. Kraus  
Thesis: "Upgrading the Ohio State Radio Observatory"
- Ph.D.: Astronomy, University of Arizona, 1988  
Advisor: Charles J. Lada  
Thesis: "Observational Studies of Star Forming Regions"

**Experience**

- Professor of Astronomy and Optical Sciences, Associate Professor of Electrical Engineering, University of Arizona, 2003-
- Associate Professor of Astronomy, Optical Sciences, and Electrical Engineering, University of Arizona, 2002-2003
- Associate Professor of Astronomy & Optical Sciences, University of Arizona, 2000-2002
- Associate Professor, Steward Observatory, University of Arizona, 1997-2000
- Assistant Professor, Steward Observatory, University of Arizona, 1991-1997
- Millikan Research Fellow in Physics, Caltech, 1988-1991
- Graduate Research Assistant, Steward Observatory, 1983-1991
- Research and Development Engineer, Jet Propulsion Laboratory, 1983
- Electrical Engineer, TRW Aerospace Division, 1981-1983

**Sample Publications**

Kloosterman, J. L., Hayton, D. J., Ren, Y., Kao, T. Y., Hovenier, J. N., Gao, J. R., Klapwijk, T. M., Hu, Q., Walker, C. K., and Reno, J. L., 2013, "Hot Electron Bolometer Heterodyne Receiver with a 4.7 THz Quantum Cascade Laser as a Local Oscillator", *Appl. Phys. Lett.*, 102, 011123.

Walker, C., 2012, *STO, GUSSTO (EXPLORER): Recent Activities and Results*, 39th COSPAR Scientific Assembly, 14-22 July 2012, in Mysore, India, p. 2114

Walker, C., Kulesa, C. & GUSSTO Team, 2012, *GUSSTO (EXPLORER): Phase A Study Report*, delivered to NASA, 23 September 2012.

C. Walker, C. Kulesa, J. Kloosterman, T. Cottam, C. Groppi, P. Bernasconi, H. Eaton, N. Rolander, B. Carkhuff, S. Hechtman, J. Gottlieb, D. Neufeld, C. Lisse, A. Stark, D. Hollenbach, J. Kawamura, P. Goldsmith, W. Langer, H. Yorke, J. Sterne, A. Skalare, I. Mehdi, S. Weinreb, J. Kooi, J. Stutzski, U. Graf, C. Honingh, P. Puetz, C. Martin, D. Lesser, and M. Wolfire, 2011, *The Stratospheric THz Observatory (STO): Preparations for Science Flight*, Proceedings of 22<sup>nd</sup> International Symposium on Space Terahertz Technology, Tucson, 26-28 April 2011.

Craig Kulesa, Christopher Walker, Abram Young, John Storey, Michael Ashley, 2011, *HEAT: The High Elevation Antarctic Terahertz Telescope*, Proceedings of 22<sup>nd</sup> International Symposium on Space Terahertz Technology, Tucson, 26-28 April 2011.

Bussmann, R. S., Wong, T. W., Hedden, A., Kulesa, C., and Walker, C. K., 2007, *A CO (J=3-2) Outflow Survey of the Elias 29 Region*, *Ap.J.*, 657, Issue 1, pp. L33-L36.

Hedden, A. S., Walker, C. K., Groppi, C. E., and Butner, H. A., 2006, *Star Formation in the Northern Cloud Complex of NGC 2264*, *Ap.J.*, **645**, p.345.

Kulesa, C., Hungerford, a., Walker, C., Zhang, X., and Lane, A., 2005, *Large-Scale CO and [CI] Emission in the Rho Ophiuchi Molecular Cloud*, *Ap. J.*, **625**, 194.

### **Synergistic Activities**

- 1) Prof. Walker's lab led efforts to construct the world's first 810 and 345 GHz heterodyne array receivers and helped develop one of the first 1.5 THz HEB receiver systems for radio astronomy.
- 2) Instruments developed by Prof. Walker's team have served as primary facility instruments at the Heinrich Hertz Telescope and the AST/RO telescope at the South Pole for over a decade.
- 3) Funded by the NSF, Prof. Walker has led the effort to design and build the world's largest (64 pixels) submillimeter-wave heterodyne array receiver (SuperCam).
- 4) He is PI of the NASA funded long duration balloon project "The Stratospheric THz Observatory (STO)".
- 5) Prof. Walker has served as dissertation director for ten Ph.D. students (7-Astronomy, 2-Optical Sciences, 1-Electrical Engineering).
- 6) Writing first textbook on "THz Astronomy".

### **Recent Collaborators (48 Months)**

Pietro Bernasconi (JHAPL), Christopher Groppi (ASU), Karl Jacobs (U. Cologne), Craig Kulesa (UofA), Arthur Lichtenberger (UVa), Carey Lisse (JHAPL), David Neufeld (JHU), Gordon Stacey (Cornell), Paul Goldsmith (JPL), William Langer (JPL), David Hollenbach (SETI Institute), John Kawamura (JPL), Christopher Martin (Oberlin College), Antony Stark (SAO), Jeffrey Stern (JPL), Juergen Stutzki (U. Cologne), Sander Weinreb (CIT/JPL), Mark Wolfire (U. Maryland), Harold Yorke (JPL), Eric Young (USRA).

*M.S.E.E. Graduate Advisor:* John D. Kraus, OSU

*Ph.D. Advisor:* Charles J. Lada, SAO

*Postdoctoral Advisor (Millikan Fellowship in Physics):* Thomas G. Phillips, CIT

*Past Ph.D. Advisees:* Grace Wolf (Hansen Planetarium), Jason Glenn (UC Boulder), Gopal Narayanan (U. Mass), Craig Kulesa (UofA), Christian d'Aubigny (UofA), Christopher Groppi (ASU), Desika Narayanan (CfA), Abigail Hedden (SAO), Dathon Golish (UofA), Jenna Kloosterman (JPL)