

## Résumé

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- Education** Ph.D. in Astronomy, May 1989  
University of Arizona  
Dissertation: "A Search for Additional Parameters in the Infrared Luminosity / 21 cm Line-width Relation for Spiral Galaxies in Clusters of Galaxies"  
B.S. with honor in Astronomy, June 1983  
California Institute of Technology
- Research** Surface photometry. The nature of the Tully-Fisher relation. Distance scale, perturbations in the Hubble flow, and large-scale motions. Low surface brightness galaxies. Pseudobulges in disk galaxies. Structure and formation of elliptical galaxies.
- Employment** Research Scientist  
McDonald Observatory, University of Texas 6/03 to present  
Conduct personal research, collaborating with John Kormendy and others.  
Manager of Computing Services  
McDonald Observatory, University of Texas 9/93 to 5/03  
Served as manager of the computing services group with eight direct reports, including three programmers, three system managers, a webmaster, and an administrative assistant. Typically, two of the programmers and one of the system managers were Ph.D. astronomers. The group provides daily operations support for the observatory and the department of astronomy, including purchasing, installation, maintenance for 150 personal computers and 100 workstations, and software development for observatory operations. Served as team lead for data acquisition and instrument control software. Served as manager for Science Operations software (including queue scheduling), and supervised the completion and commissioning of the telescope control system, for the Hobby-Eberly Telescope (HET).

## Instructor

Department of Astronomy, University of Texas

5/93 to 8/93

Co-taught graduate course AST392G, “Observing Techniques in Astronomy”. This course covered direct imaging and low-resolution, long-slit spectroscopy with CCDs, as well as instrument theory and scientific backup for a globular cluster color-magnitude project on McDonald’s 0.8-m telescope and a photoionization mechanism classification project on McDonald’s 2.1-m.

## Research Scientist Associate

Computer Support Group

McDonald Observatory, University of Texas

10/90 to 9/93

Provided software support, documentation, and training for astronomical image processing and graphics packages including AIPS, IRAF, GASP, STSDAS, DAOPHOT, PG-PLOT, MONGO, and XANADU. Participated in specification, testing, and development of spectrograph and CCD control software, and a system to schedule observations on the HET. Performed system management for a network of 50 Sun workstations. Carried out personal research. Supervised graduate students.

## Postdoctoral Fellow

CCD Development Group

McDonald Observatory, University of Texas

10/88 to 10/90

Developed test software for the CCD group, including instrument control software for various CCD systems and for an apparatus to measure the absolute sensitivity of CCDs. Provided software support for several image processing and graphics packages. Debugged CCD hardware and software problems. Conducted personal research.

## Graduate Research Assistant

Steward Observatory, University of Arizona

6/87 to 10/88

Provided software support for several mainframe graphics packages. Served as a consultant for personal computer applications. Performed personal research.

## Graduate Research Assistant

CCD Transit Instrument (CTI) Project

Steward Observatory, University of Arizona

5/86 to 6/87

Developed algorithms for star / galaxy separation in a database consisting of  $\sim 10^5$  images collected each night by a 72-inch automatic telescope with CCD detectors. Derived galaxy counts and the angular correlation function from these data.

- Graduate Teaching Assistant  
Department of Astronomy, University of Arizona 8/83 to 5/86  
Led discussion sections, graded exams, and gave lectures in support of the introductory astronomy courses for non-majors.
- Engineer  
VLBI group  
Jet Propulsion Laboratory  
California Institute of Technology 6/83 to 8/83  
Developed fitting software to permit precise astrometry via Very Long Baseline Interferometry of the radio source SS433.
- Programmer  
Solar Astronomy  
California Institute of Technology 9/82 to 6/83  
Wrote cross-correlation and filtering software for use with microwave observations obtained with the Owens Valley Radio Observatory solar interferometer.
- Summer Undergraduate Research Fellow  
California Institute of Technology 6/82 to 9/82  
Analyzed the arrival-time differences between x-rays and microwaves produced in solar flares using data from the Owens Valley Radio Observatory solar interferometer and the Hard X-Ray Burst Spectrometer on the Solar Maximum Mission.
- Photographic Laboratory Technician  
Big Bear Solar Observatory  
California Institute of Technology 3/82 to 6/82  
Produced reprints of solar flare photographs taken in the Big Bear solar flare patrol program.

**Skills** Scientific programming in FORTRAN and C under UNIX and VMS. Linux, OS X, SunOS, Solaris, VMS, and Windows system administration. Computer hardware maintenance. Network design and administration. HTML and web services. CCD observations and image analysis at optical and IR wavelengths. ICE. Experience in data reduction using a wide variety of image processing packages, including IRAF, STSDAS, IDL, MIDAS, GASP, and VISTA. Programming in the IRAF environment using the CL, F77/VOS, IMFORT, and PyRAF interfaces. Familiarity with X-Windows, OpenWindows, and CDE. Maintenance and manipulation of astronomical databases and archives. Telescope and instrument control software. Technical management and software design. Large telescope operations, data handling, queue scheduling.

## Bibliography

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- “A Distance Scale from the IR Magnitude/H I Velocity Width Relation. V. Distance Moduli to Ten Galaxy Clusters, and Positive Detection of Bulk Supercluster Motion Toward the Microwave Anisotropy”, Aaronson, M., Bothun, G., Mould, J., Huchra, J., Schommer, R. A., and Cornell, M. E., *Ap. J.* **302**, 536 (1986).
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- “A Study of SN 1992H in NGC 5377”, Clocchiatti, A., Benetti, S., Wheeler, J. C., Wren, W., Boisseau, J., Cappellaro, E., Turatto, M., Patat, F., Swartz, D., Harkness, R., Brotherton, M., Wills, B., Hemenway, P., Cornell, M., Kaiser, M., *A. J.*, **111**, 1286 (1996).
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