

Sven Geier
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EDUCATION: | NASA/GSFC and University of Maryland
PhD, Astronomy - 2000
Master of Science - 1996
Universität Hamburg, Germany
Diplom Physik - 1993

SUMMARY OF QUALIFICATIONS:

- I am an Experienced researcher and analyst with almost 15 years of experience with high technology and space science projects. I have Experience with many of the surrounding issues, from materials technology to systems theory and operational logistics.
- I have a demonstrated ability to solve complex, challenging, new problems in a team context. I am comfortable either working as part of a team, or independently. I am a practiced and confident public speaker. I tend to be perceptive, fast on the uptake and thorough in my analysis.
- I am fluent in English and German and have basic reading comprehension in several languages. I have traveled to every continent and have worked/am comfortable in many different cultures and conditions.
- I tend to perform gracefully in high-pressure work environments and have experience with and enthusiasm for both teaching and learning. I am very much a generalist; my greatest strength is probably in programming / quantitative analysis. My heart is with complex systems.

RECENT EMPLOYMENT:

Senior Postdoctoral Scholar, California Institute of Technology. **11/2003 - present**

- Responsibility for logistics of the calibration run of the STEREO/SEP suite of instruments at the National Superconducting Cyclotron Laboratory.
- Successful design and development of vacuum and cryosystems.
- Development, construction and testing of space instrumentation and materials and čerenkov detectors.
- Complete analysis of the TIGER 2003 Ultraheavy Cosmic Ray data set.

Postdoctoral Scholar, California Institute of Technology. **10/2000 - 10/2003**

- Team member in record-setting TIGER Antarctic campaigns of 2001 and 2003.
- Development, testing and characterization of thin silicon based particle detectors which are now to be launched on the STEREO spacecraft in 2006.
- Space radiation instrumentation: development, modeling, construction, testing.
- Data analysis for the TIGER 2001 cosmic ray data set.

Research Associate, NASA/Goddard Space Flight Center and U of Maryland. **05/2000 - 10/2000**

- Flight operations for the ISOMAX project in Lynn Lake, Canada, July–September 2000.
- Data processing, analysis, modeling. Computer system administration.

Research assistant, NASA/GSFC, Greenbelt, MD **06/1995 – 05/2000**

- Developed space-borne particle detection hardware for the ISOMAX project which carried the strongest magnet ever to leave earth (PhD thesis project).
- Testing, calibration and modeling of space radiation equipment.
- Key team member for successful flight operations in Lynn Lake, Canada, June–August 1998.
- Data-processing, analysis, modeling of ISOMAX GCR data set.
- Computer system administration.

Teaching assistant, University of Maryland, College Park, MD 20742. **09/1993 – 05/1995**

- Lab and discussion sections for Astronomy 100 and 101 including creation and administration of exams.
- Individual tutoring of students.

Tutor, mathematischer Vorkurs; Universität Hamburg, Hamburg, Germany. **Summer term 1993**

- Teaching assistant for the introductory math lecture.
- Conducted discussion/Work sections.

Studentische Hilfskraft for the Hamburger Sternwarte, Hamburg, Germany.

07/1990 – 12/1992

Research assistant at the observatory in Hamburg.

- Software development, modeling of radio emission line spectra.
- Work on low mass, X-ray bright PMS stars via ROSAT PSPC data (thesis project)
- Study of the absorption of X-rays in the interstellar medium.
- Some optical work, mostly in astrometric context.

During this time:

IAESTE Assistant, Institute for Geodesy, Astrometry and Remote Sensing, Konkoly Observatory of the Hungarian Academy of Science, Budapest, Hungary.

06/1991 – 10/1991

- Wrote complete verification code for tracking, modeling, and determination of satellite orbits in connection with the Russian Радиоастрон (RADIOASTRON) space VLBI project.

Assistant, for work at the Gornergrat, Zermatt, Switzerland.

07/1990 – 08/1990

- Radio-astronomical measurement of molecular lines in the mm band.

“Tutor, Physik für Chemiker” Universität Hamburg, Hamburg, Germany.

Winter term 1989/90

- Teaching assistant for “Physics for Students of Chemistry”: Discussion sections and exam prep.

OUTSIDE ACADEMIA:

Two years of work as an EMT for the German Red Cross. Student government work. Many years of involvement in new student orientation. Bicyclist and swimmer. Creator of the Linux client for the ECC2 distributed computing challenge and other DC tools. 20,000 hits/month on a website of original fractal and algorithmic art.

SKILLS/EXPERIENCE SUMMARY:

- In alphabetical order: astrometry, beam optics, computer systems, cryogenics, data processing, electronics, high-speed timing circuits, particle detectors, plasma physics, plastics and glues, programming, radio astronomy, scientific ballooning, semiconductors, space science and technology, systems theory, teaching, vacuum systems, x-ray detectors.
- Many years of experience with Alpha/OSF, Linux, PC's (including several years of co-system administration on heterogeneous cluster at GSFC), VAX/VMS, SUN/Solaris, RS6000/AIX, IBM 370 (MVS-ESA and BS3000). IDL, FORTRAN, C, TCL/Tk and more. All the standard software on these machines.

SELECTED PUBLICATIONS:

Astrophys. J. 611, 892 (2004)

Proc. 28th ICRC (Tsukuba) SH 1.2 (803) (2003)

A Study of Cosmic Ray Beryllium with the Isotope Magnet Experiment (ISOMAX); dissertation (2000)

Proc. Apr00 APS W16.008, (2000)

Nucl. Instr. and Meth. 400, 428 (1997)

Astronomy and Astrophysics, 299, 39 (1995)

AIP Conf proc. 313, 275 (1994)

(Full list of publications and references available upon request)