

David A. Stricker
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Profile

Hands on Project Manager and R&D Engineer with 11 years experience bringing space related projects of 2 million dollar size to fruition. Specifically, I worked on five low temperature physics flight projects for a total of 16 years as a Stanford employee.

Experience

Research and Development Engineer, Hansen Experimental Physics Lab,
1996-Present Department of Physics, Stanford University, CA

2005-Present Project **Satellite Test of the Equivalency Principle (STEP)**

- Manager, Differential Accelerometer Hardware Group. Successfully led and completed \$280K quartz accelerometer parts procurement from Axsys Technologies in Cullman, AL.
 - Ran weekly meetings with scientists and mechanical and manufacturing engineers on fabrication drawings, tolerance accumulation, and material properties.
 - Worked with Stanford Procurement to satisfy federal regulations.
 - Supported Dr. Carsten Mehls in successful assembly of high precision quartz instrument components.

2000-2005 Project **Superconducting Microwave Oscillators (SUMO)**

Assisted in the procurement, fabrication, testing, and modeling of superconducting microwave oscillators made from high purity niobium with the goal of having two oscillators flown to the International Space Station.

- Fabrication and assembly of oscillators involved testing acid etches for niobium, use of a nitrogen glove box for assembly with indium o-rings, ion pumps, leak detectors.
- Leak testing cryogenic valves at 2.0K at 400 psi.
- Testing involved operation of cryogenic probes (liquid helium, liquid nitrogen).

2000 Project **Gravity Probe B (GPB)**

- Maintained the gyroscope commissioning probe.
- Assisted in the magnetic screening of parts.

1996-2000 Project **Confined Helium Experiment (CHEX)**

- Constructed flight hardware which flew aboard the space shuttle Columbia in 1997. Specifically: the construction of high resolution thermometers by growing large paramagnetic salt crystals around a matrix of copper wires with high thermal conductivity; aided in the fabrication and development of silicon wafers used to confine the liquid helium. This involved basic clean room techniques on silicon such as photolithography and etching. Coordinated the delivery of the wafers with Jet Propulsion Labs and Stanford Univ.
- Wrote and tested software to monitor the high resolution thermometers before, during, and after the flight mission.

- Technology transfer for flight hardware development, assembly, and monitoring. This included travel as needed to Jet Propulsion Laboratory, CA; Marshall Space Center, Al; Northeastern Univ., MA.

1991-1996 **Research Assistant**, Hansen Experimental Physics Lab, Department of Physics, Stanford University, CA

Project **Lambda Point Experiment (LPE)**

- Wrote PV Wave programs on a Sun Sparcstation to monitor realtime data for the Lambda Point Experiment which flew aboard Columbia on Oct. 22, 1992.
- Assisted in testing the Lambda Point Experiment prototype.

1987-1991 **Research Assistant**, Department of Physics and Astronomy, San Francisco State University, CA

- Designed and fabricated thin film superconducting devices by thermal evaporation and sputtering in a high vacuum system.
- Tested and characterized Nb, Al, and Sn superconducting tunnel junctions in liquid helium and on a one-shot 0.3 Kelvin probe.
- Coordinated undergraduate and graduate students for projects.

1988-1991 **Instructor**, Department of Physics and Astronomy, San Francisco State University, CA

- Taught physics labs covering electricity and magnetism with calculus.

Education

1991 **Master of Science in Physics**

- **Master of Science Thesis Research:** Fabricated and analyzed current-voltage characteristics of superconducting tunnel junctions for use as particle detectors.
- **Bachelor of Science in Physics**, 1988, Magna Cum Laude
- **Bachelor of Arts in Math**, 1987, Magna Cum Laude
San Francisco State University, CA

Honors/Awards

- Space Flight Awareness Team Award for significant new insight into the behavior of confined helium and for the project being delivered on time and under budget. Jan. 1999
- Notable Organizational Value-Added Award presented by Jet Propulsion Laboratory in recognition of the CHeX Team's outstanding support to the Space and Earth Science Programs Directorate. July 10, 1998
- Group Achievement Award; presented by NASA for the successful flight of the Confined Helium Experiment which met or exceeded each of its science requirements. April, 1998
- Membership in **Phi Beta Kappa**, 1988

Publications/Presentations Partial listing is available at <http://www.osti.gov/energycitations>

References: Available upon request.