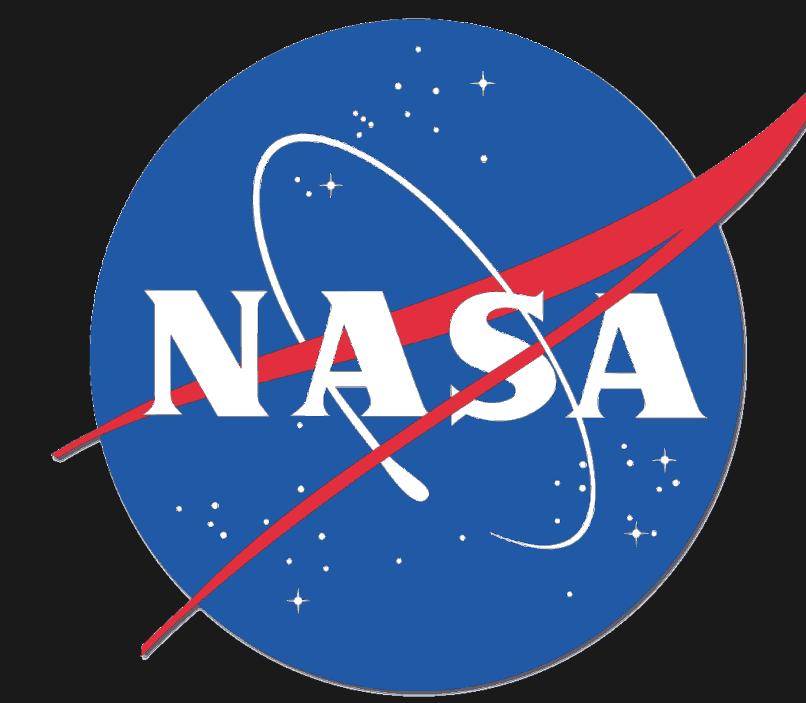




Star Camera Software



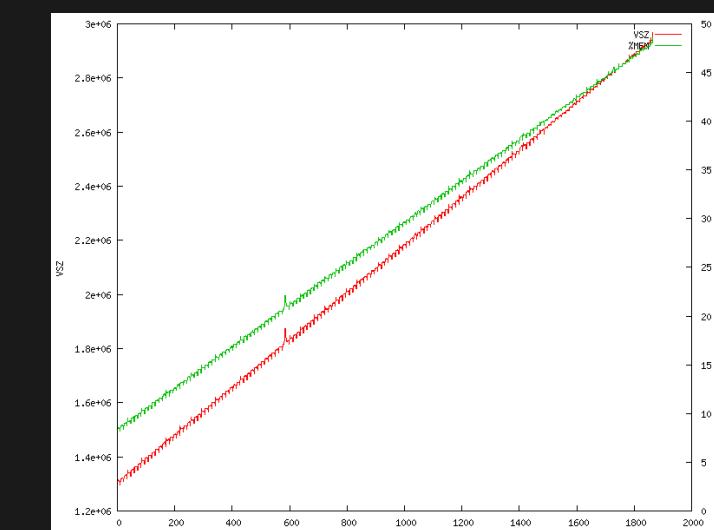
by: Joe Gibson - Mentor: Dr. Stephen Rinehart (665)
Special thanks to: Maxime Rizzo and Steve Maher

[bettii]_§ Overview

- › The Star Camera system determines BETTII's position in space by analyzing star patterns
- › Knowing the precise position allows BETTII to be accurately moved to be pointed at a target
- › My tasks:
 - › Integrate picture taking software (StarTracker) with analysis software (StarFinder)
 - › Implement RS-422 communication network for transfer of data between instruments and FPGA

[bettii]_§ Results

Memory Leak



Solved

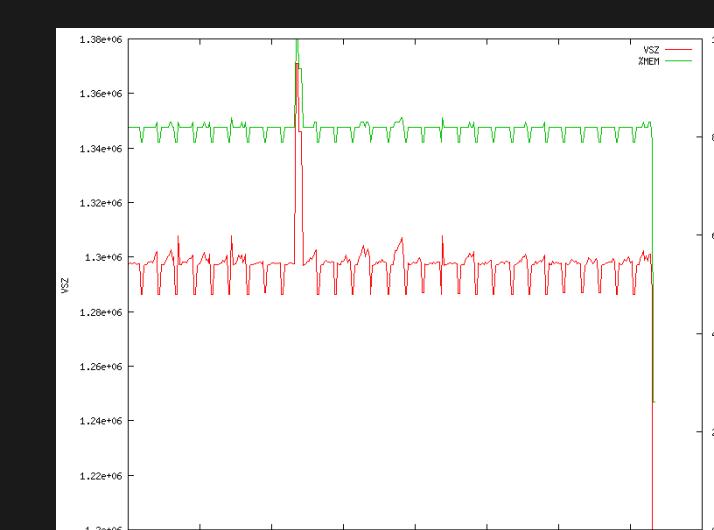
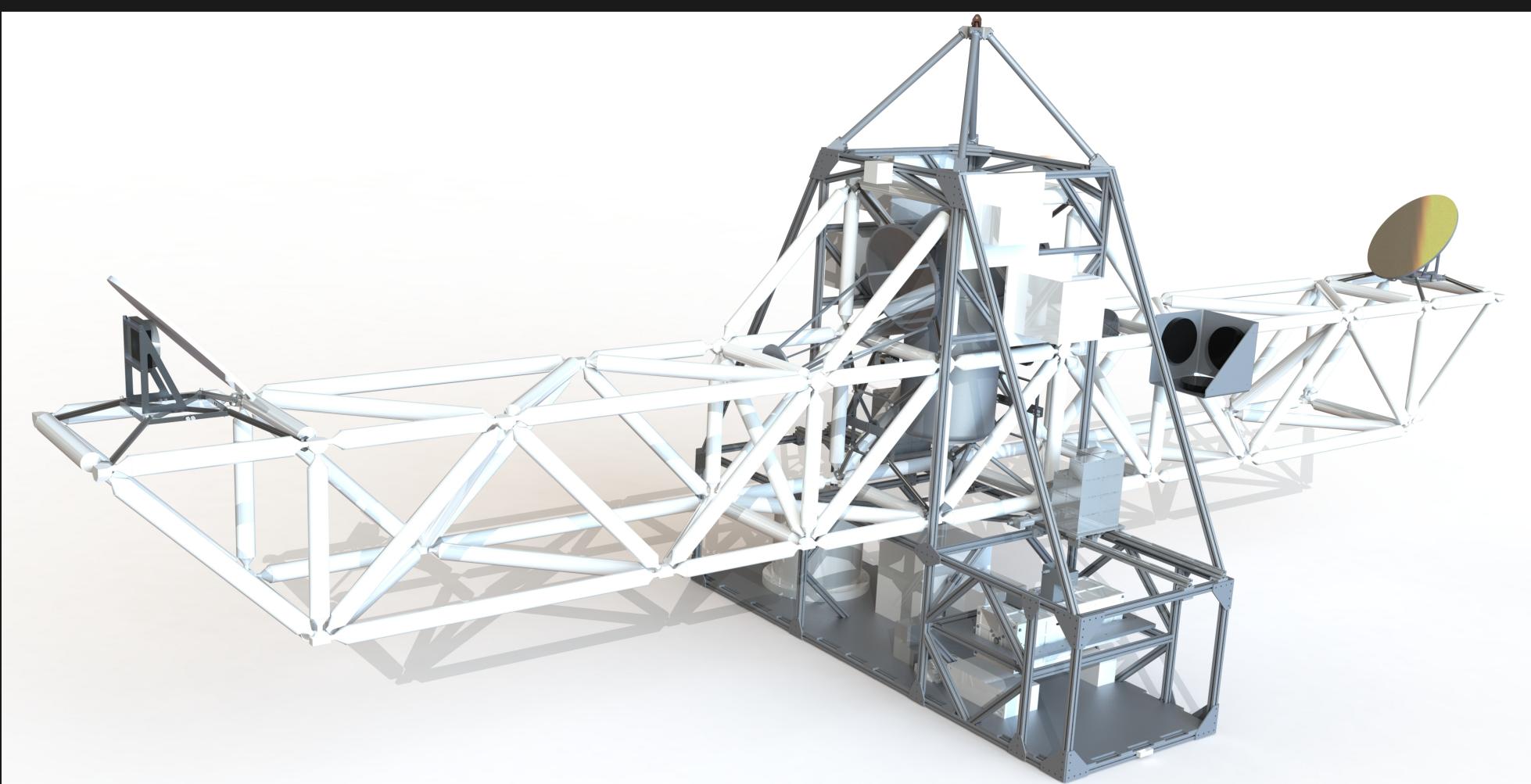


Image From Star Camera



[bettii]_§ What is BETTII?

- › Balloon-based infrared telescope studying star formation



[bettii]_§ What I learned

- › Unix programming in C and C++
- › Shared memory
 - › Ring buffer (circular buffer)
 - › Semaphores/mutex
- › RS-422 communication
- › Camera interface software
- › LabVIEW and FPGA software

[bettii]_§ Star Camera

