CASCAM: The Infrared Camera Project

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- On-going project
  for the 2.16m telescope at Xinglong Station
- Collaboration
  between **SFG-**PMO and **Zlab-**Nagoya Univ.

CASCAM: Support

√MST&CAS, under Pandeng project

190K USD + 1.4M RMB + 700K RMB

×NAOJ, joint development & research

7.0M JPY

√NSFC-JSPS scientific cooperation program

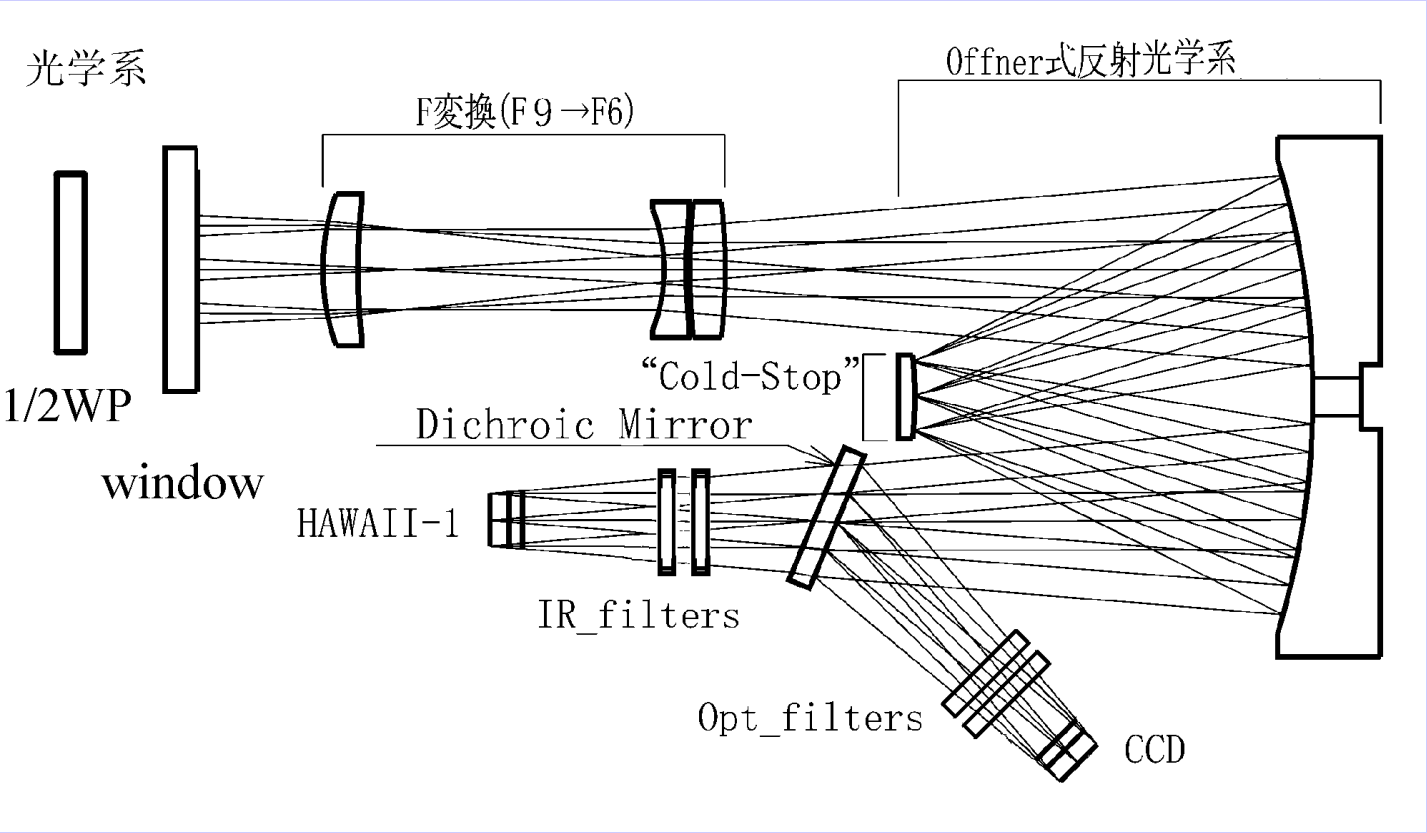
CASCAM: Progress

- Concept design of CASCAM
- Establishing IR Lab under SFG
- Reviewing the SIRIUS camera
- Designing CASCAM detail
- Examining the CASCAM design
- Manufacture and Experiments

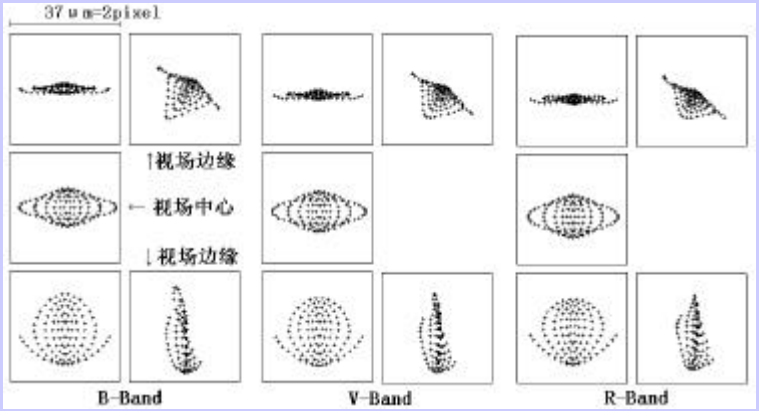
CASCAM: Specification

Detector	HAWAII-1	CCD (2Kx2K)
Spectra	1.0-2.5 ?m	0.4-1.0 ?m
Optics	F-reducer (F9? F6) + Offner	
FOV	5 ’□,0.3”/pix	
Filters	9+ 9 broad-/narrow-band	
P.metry	achromaticHWP+cold polarizer	

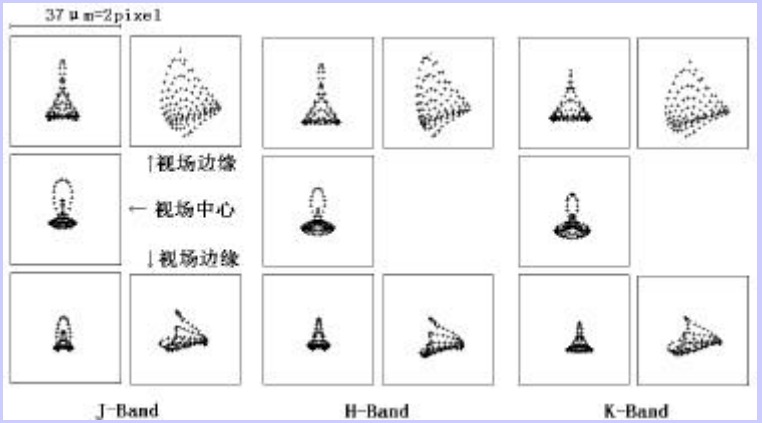
CASCAM: Optics



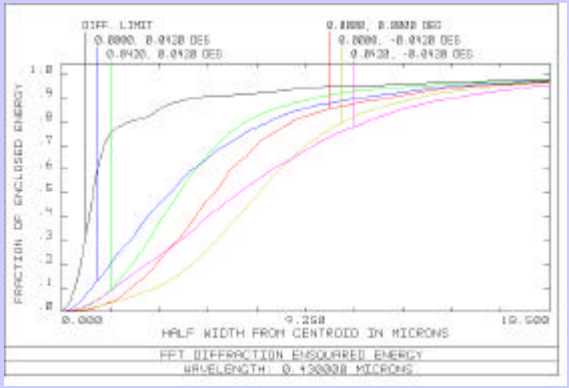
CASCAM: Spot Diagram



Visual



Near-Infrared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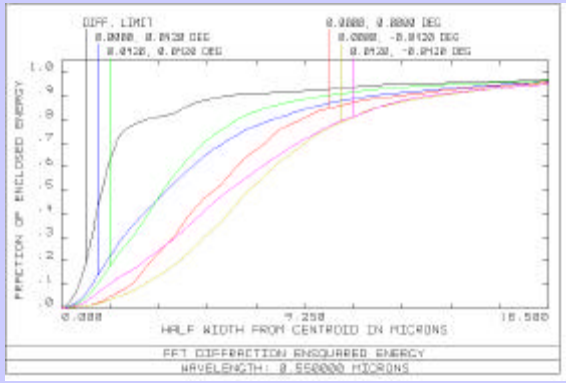
FRACTION OF ENCLOSED ENERGY
HALF WIDTH FROM CENTROID IN MICRONS
FFT DIFFRACTION ENSQUARED ENERGY
WAVELENGTH: 0.430000 MICRONS

B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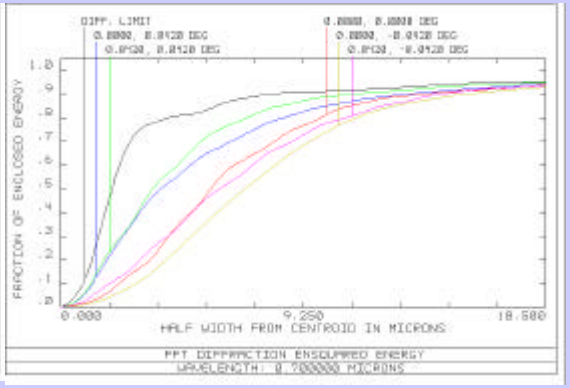
WAVELENGTH: 0.550000 MICRONS

V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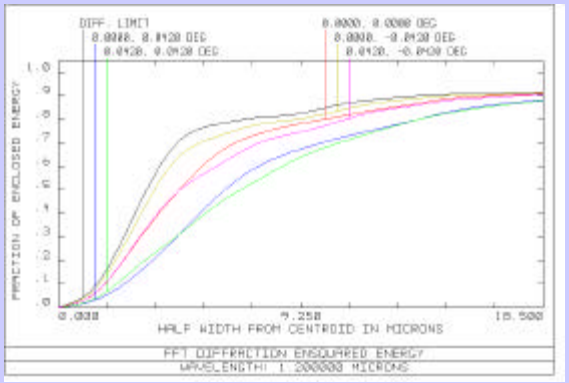
FRACTION OF ENCLOSED ENERGY
HALF WIDTH FROM CENTROID IN MICRONS
FFT DIFFRACTION ENSQUARED ENERGY
WAVELENGTH: 0.700000 MICRONS

R

J

H

K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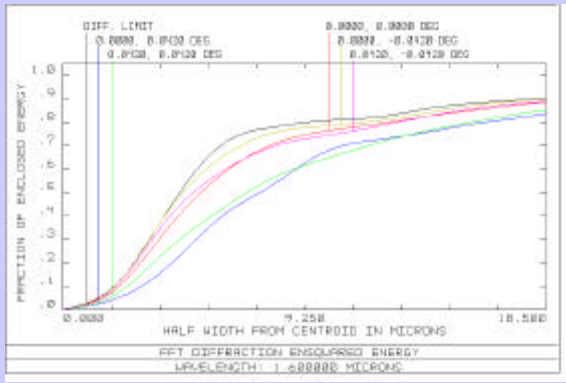
FRACTION OF ENCLOSED ENERGY
HALF WIDTH FROM CENTROID IN MICRONS
FFT DIFFRACTION ENSQUARED ENERGY
WAVELENGTH: 1.200000 MICRONS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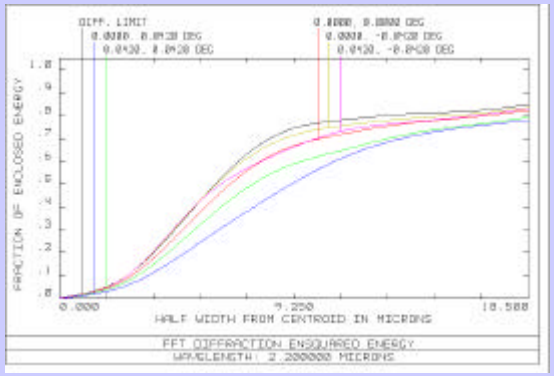
HALF WIDTH FROM CENTROID IN MICRONS
FFT DIFFRACTION ENSQUARED ENERGY
WAVELENGTH: 1.600000 MICRONS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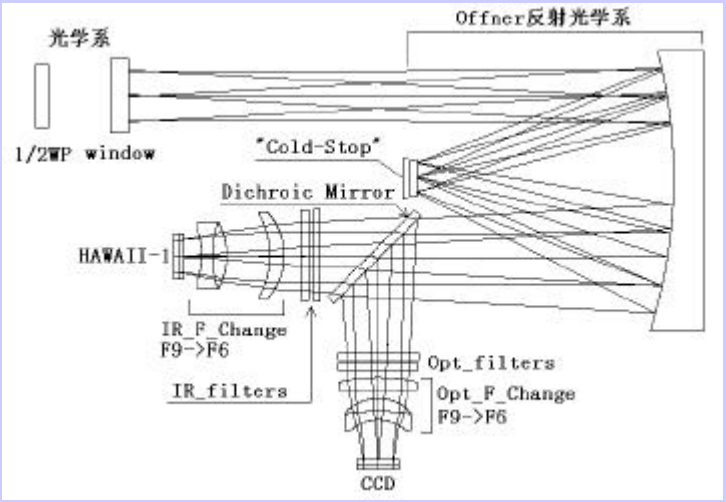
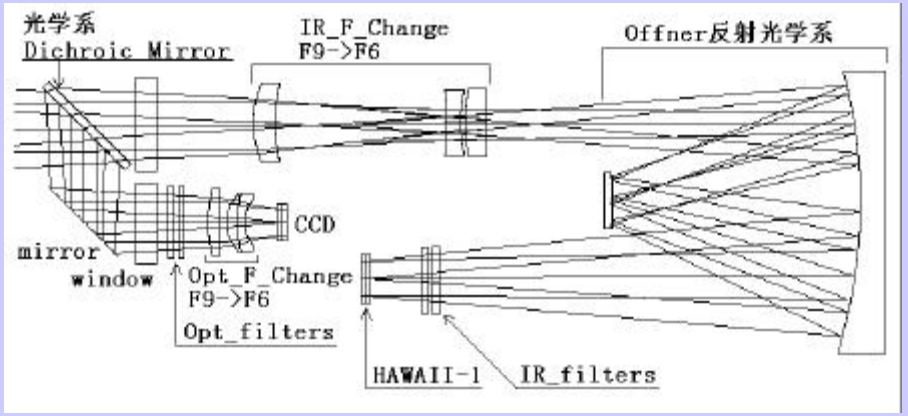
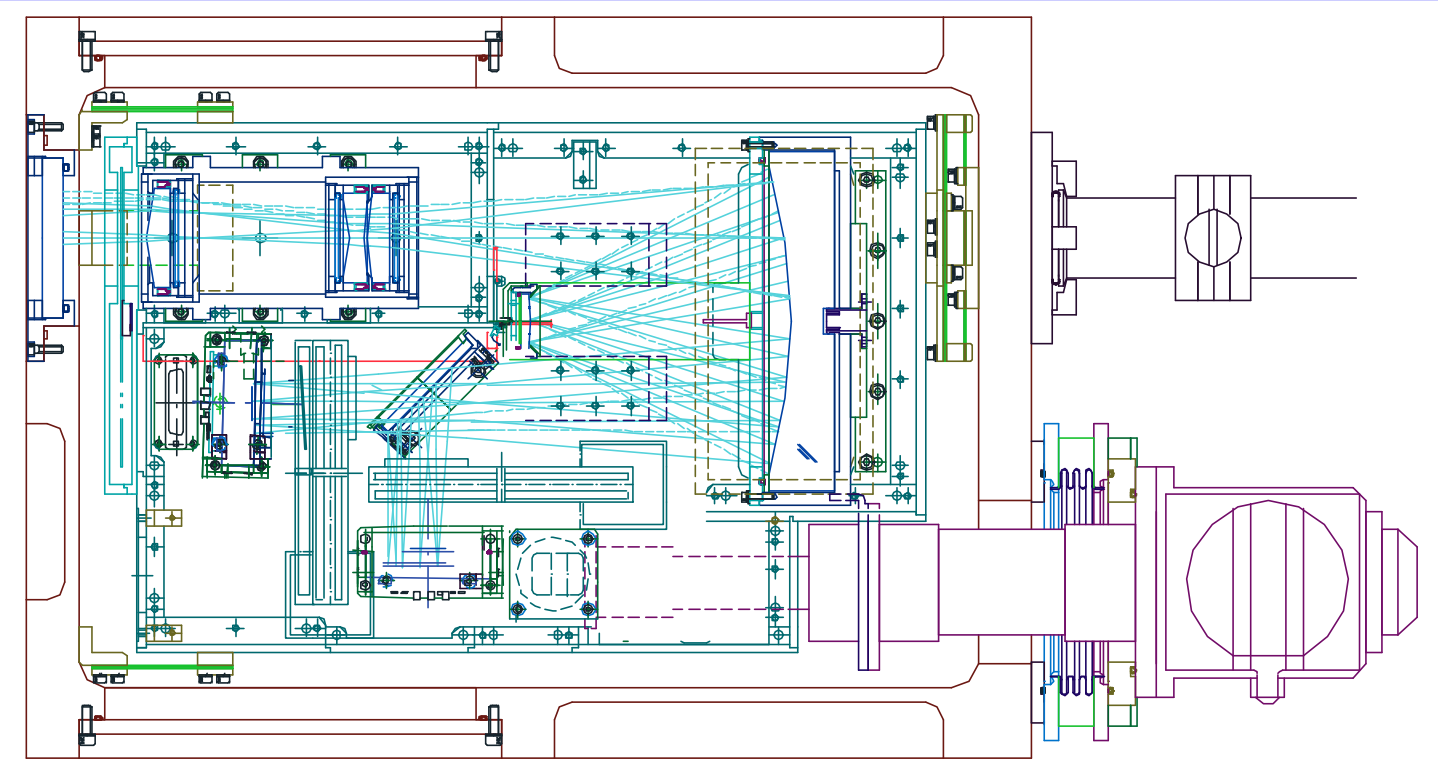
HALF WIDTH FROM CENTROID IN MICRONS
FFT DIFFRACTION ENSQUARED ENERGY
WAVELENGTH: 2.200000 MICRONS

CASCAM: Optical Evaluation

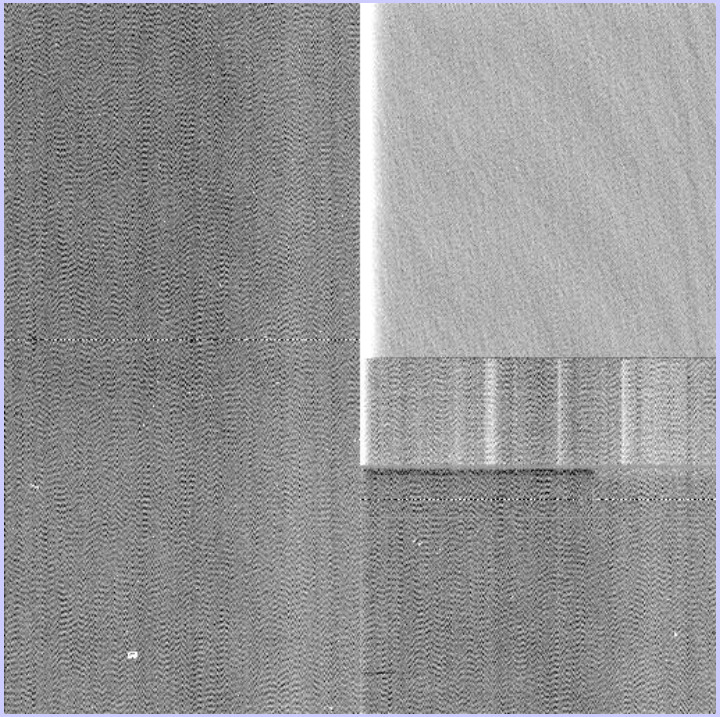


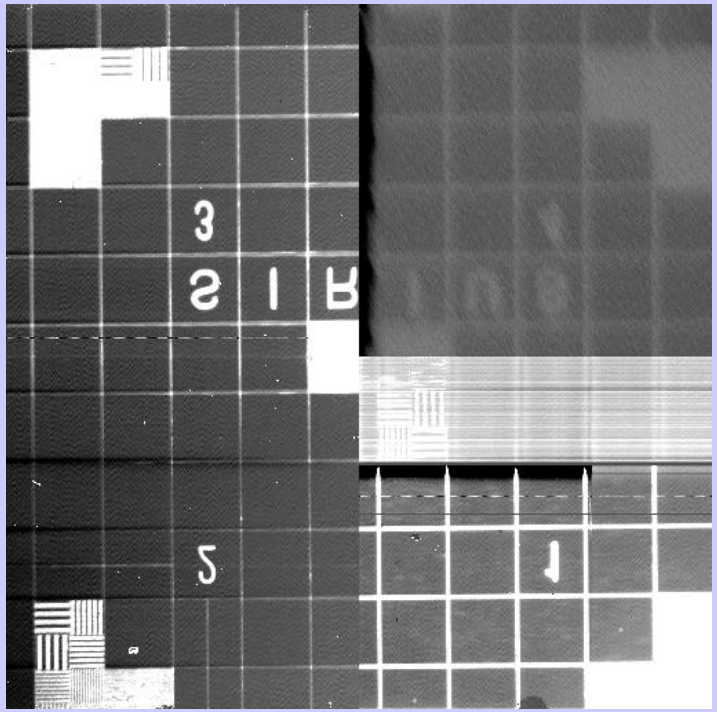


CASCAM: Layout

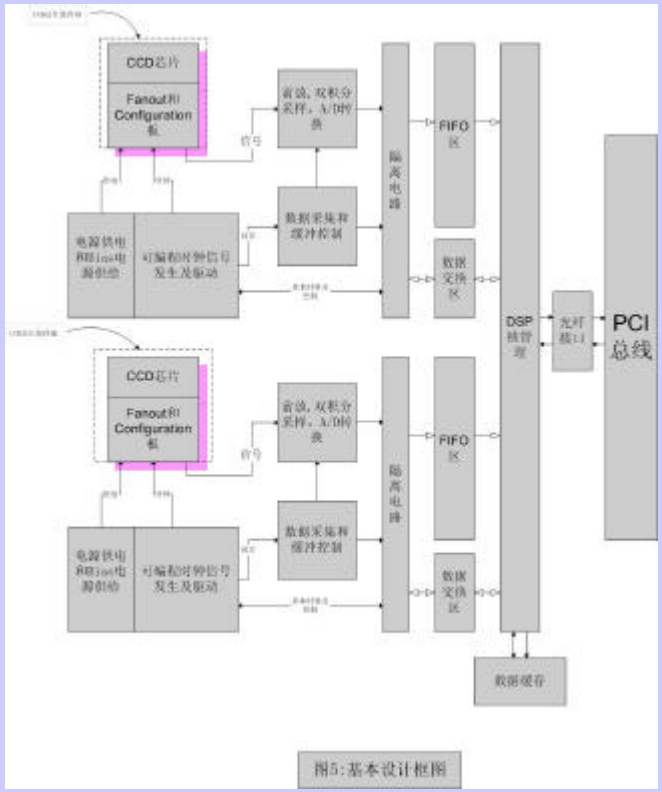


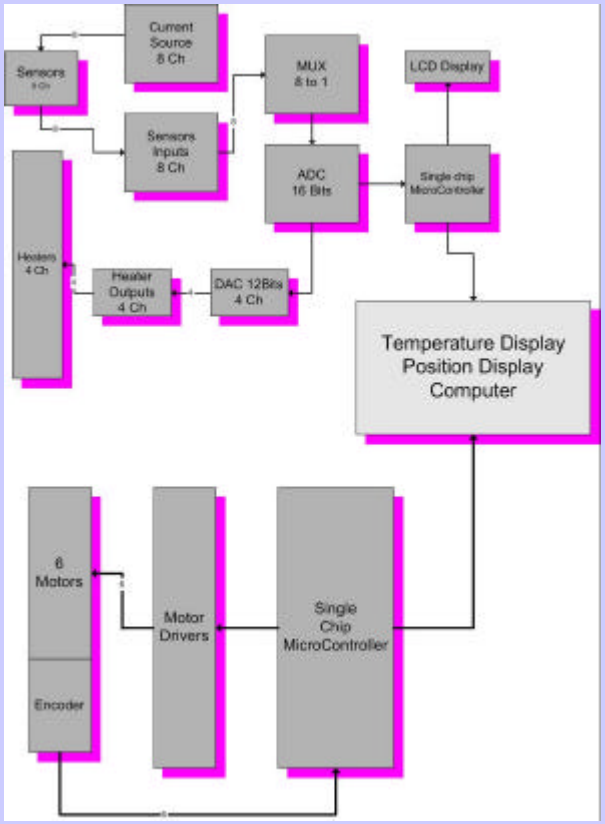
CASCAM: HAWAII-1





CASCAM: Electronics





CASCAM: Schedule

01/11-12	reviewing CASCAM design
	confirming manufacturers
02/01-12	manufacture and ordering
	assembly and experiments
02/06-12	controlling software
	telescope interface
03/01-06	telescope attachment and test