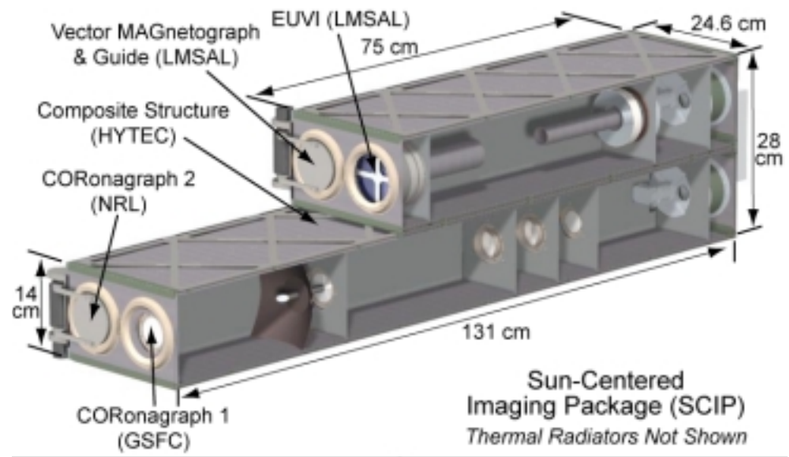
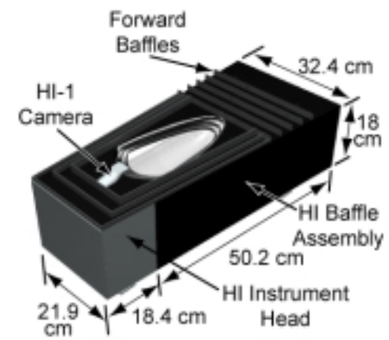
Table 1-1. SECCHI Institutional Participation

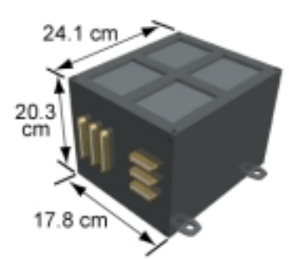
Inst.	Institution	Mission Responsibilities	Point of Contact
All Instruments	NRL's Solar Physics Branch	▪ Home Institution for PI & PM ▪ Lead for mission assurance, systems engineering, SR&QA, Contamination Control & Cofiguration Mgmt. ▪ Acquisition & oversight for COR1, COR2, HI, MAG, & EUVI Detector CCDs & Cameras ▪ Lead for Instrument suite Flight S/W, integration & test, CPET, calibration, delivery, & commissioning ▪ Supports JHU/APL's payload-to-spacecraft, spacecraft-to-launch vehicle integration, & mission operations ground system development ▪ Lead for MO&DA GDS Development & MO&DA ▪ Leads E/PO Program	▪ R.A. Howard, PI ▪ K. Sizemore, PM ▪ J.D. Moses, Prog. Scientist ▪ K.P. Dere, Msn. Scientist ▪ D. Michels, E/PO Coordinator ▪ M. Johnson, Proj. Manager ▪ D. Socker, Inst. Manager
	MPAe	▪ Support for SCIP Door Mechanisms ▪ Supports MO&DA	▪ R. Schwenn, Instr.Scientist
	Kiel University	▪ Fabrication of SCIP Door Mechanisms	▪ V. Bothmer, Inst. Scientist
	RAL	▪ Designs camera & specifies CCDs ▪ Supports MO&DA	▪ J. Lang, CCD & Camera Design Scientist
	MSSL	▪ Build cameras for all telescopes except HI Instrument ▪ Supports MO&DA ▪ Acquires CCDs	▪ J. L. Culhane, Instr. Scientist
Coronagraph 1 (COR1)	GSFC	▪ Home Institution for COR1 ▪ Supports MO&DA ▪ Supports E/PO Program	▪ R.R. Fisher, Instr. Scientist ▪ J.M. Davila, Project Scientist
Coronagraph 2 (COR2)	NRL's Solar Physics Branch	▪ Home Institution for COR2	▪ S. Plunkett, Proj. Scientist ▪ D. Socker, COR2 & US HI Instr. Scientist
Heliospheric Imager (HI)	Univ. of Birmingham ASRG	▪ Home Institution for HI ▪ Lead for UK CCD/Detectors & Camera development & acquisition ▪ Supports MO&DA	▪ G.M. Simnett, Instr. Scientist
	CSL	▪ HI optical design expertise & facilities for stray light & environmental qualification tests ▪ Supports MO&DA	▪ J.M. Defise, HI Test Proj. Scientist ▪ P. Rochus, HI Test Project Manager
VMAG EUVI	LMSAL	▪ Project & Instrument Management for MAG, EUVI, & Electronics	▪ J.R. Lemen, Proj. Manager ▪ L. Springer, Inst. Manager
VMAG		▪ Home Institution MAG ▪ Supports MO&DA during Phase E ▪ Supports E/PO Program with Stanford University	▪ T.D. Tarbell, MAG Inst. Scientist
Electronics		▪ Lead for SEB ▪ Flight S/W for FG/MAG/EUVI ▪ Provides select shutters, mechanisms, & motors	▪ C. Edwards, Elec. & Mech.
EUVI		▪ Home Institution for EUVI ▪ Supports MO&DA	▪ J.-P. Wülser, EUVI Inst. Scientist
	IAS	▪ EUVI Mirror, coatings & calibration ▪ Supports MO&DA	▪ J.P. Delaboudiniere, Lead Optics Scientist

Sun Earth Connection Coronal and Heliospheric Investigation
- SECCHI -

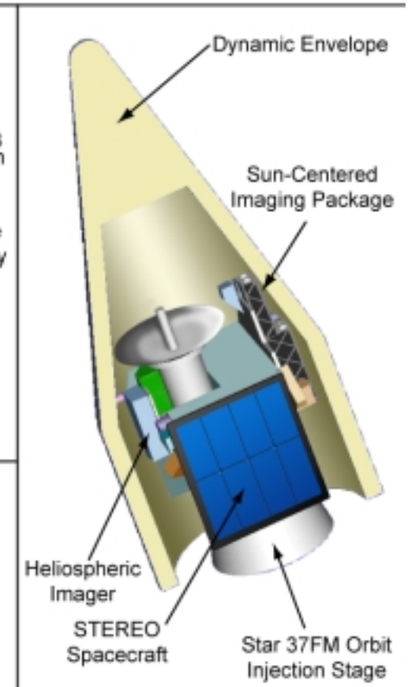




Heliospheric Imager (HI) and Baffle (University of Birmingham)



SECCHI Electronics Box (SEB) (LMSAL)



SECCHI Satisfies the Volume Constraint of *Athena* II Fairing (92") w/Model 47 Adapter

Table 1-2. SECCHI Instrument Heritage

Component		Heritage
EUVI	Optics, ISS Limb Sensor, ISS Electronics, & Guide Telescope	TRACE & EIT
	Multilayer Coatings, EUV Entrance & FP Filters	NIXT, SU-MSFC XRT, EIT, & TRACE
	Active Mirror Assembly	MDI & TRACE
	Quadrant Shutter	MDI, SXT, & TRACE
	Filter wheel	MDI & TRACE
VMAG	Optics Design	TRACE Guidescope & MDI
COR1	Optics Design	Mauna Loa Mk3 Coronagraph
COR2	Optics Design	LASCO C3 optics (rescaled)
HI	Optics	LASCO approach (stepwise for increase with traditional designs)
Common Electronics & Mechanisms	1/2 Wave Plate Mechanism (3), Mechanism Driver Electronics, Instrument Analog Monitor Board, Electronics Enclosure	MDI & TRACE
	All Focal Plane Shutters	MDI, SXT, & TRACE
	Power Distribution, Power Converter for Computer	TRACE
	RAD6000 Data Handling Computer	SXI, SMEX-Lite, Triana EPIC
Cameras	CCD Readout Electronics, Camera ASICs, & CCD Camera Body	SMEI
	CCDs	SXI, Solar B, & *Rosetta* Oasis
Instrument Suite	Front Door	LASCO, EIT
	Structural System	Reuse of FORTE composite structural models & processes
	Software	SMEX-Lite, SXI, LASCO
	Firmware	SMEX-Lite (see Table 1-9)
	GSE Software	LASCO, EIT, SXI

Table 1-3. SECCHI Instrument Suite Observables

Inst.	Observable	Wavelength	Pixel Resolution	Field of View	Nominal Cadence
VMAG	Photospheric Magnetic Field	6302 Å	2 arc sec	Disk	30 min.
EUVI	He II Intensities	304 Å	1.4 arc sec	<1.5 $R_\odot$	2.5 min.
	Fe X, Fe XII, Fe XIV Intensities	171, 195, 211 Å	1.4 arc sec	<1.5 $R_\odot$	
COR1	Total White Light Brightness, Polarized Brightness p, pB, B	6500 to 7500 Å	7.6 arc sec	1.1-4 $R_\odot$	8 min.
			7.6 arc sec	1.1-4 $R_\odot$	
COR2	Total White Light Brightness, Polarized Brightness p, pB, B	4500 to 7500 Å	14 arc sec	2-15 $R_\odot$	30 min.
HI	Total White Light Brightness	4500 to 7500 Å	40 arc sec	12-84 $R_\odot$	1 hr
			2 arc min	66-318 $R_\odot$	

Table 1-4. Size, Mass, and Power with Reserves

Deliverables	Max. Size (cm) (l x w x h)	Mass (kg)	Power (W)
Common Electronics & Flight Harness	24.1 x 17.8 x 20.3	11.6	39.9
Sun Centered Imaging Package (SCIP)	131 x 24.6 x 28	20.8	—
Heliospheric Imager (HI)	68.6 x 32.4 x 18	4.3	—
Totals	—	36.7	39.9