

1. Space Solar Telescope (SST)

1) Scientific Object of SST

The main aims of the Space Solar Telescope is to achieve a breakthrough advance in Solar Physics through coordinated, wave bandwidth coverage, high resolution and continuously temporal evolution observations of transient and status in solar hydrodynamic and magnetohydrodynamic processes

The practical contents of the scientific objectives are as follows.

- (1) Explore the 3-dimensional structure of vector magnetic fields and velocity fields with about 0.1" spatial resolutions by means of 2-dimensions real time polarizing spectrograph and the Stokes parameter profile.
- (2) Explore the fine structures of solar atmospheres, especially the heating of the chromosphere and the corona.
- (3) Study the energy build up, storage, triggering, and release of solar flares, study the fine evolution of the solar active region, the sunspots and the prominences.
- (4) Study the various solar transient phenomena associated with solar terrestrial space environment, and provide various parameters serving the purpose of forecasts of solar activity and associated.

2) Payload

The Payloads of Space Solar Telescope are consisted of five instruments.

(1) Main Optical Telescope

Diameter of mirror: 1M

Field of view 2.8' 1.5'

angular resolution 0.1" 0.15" (λ 4000 Å 6900 Å)

2-D spectrograph: 8 channels

spectral resolution: 0.075 Å (λ 5324 Å)

accuracy of polarization degree: 2×10^{-4}

(2) EUV Image Telescope

Diameter : 12 cm

Channel: 4

Wavelength:	129 Å	171 Å	195 Å	304 Å
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Field of view:	8.5' 8.5'	8.5' 8.5'	8.5' 8.5'	8.5' 8.5'
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Angular resolution:	0.8"	0.8"	0.8"	0.8"
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(3) Wide band spectrometer

Soft X-ray	2-30 Kev	64 Channels
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Hard X-ray	15-450 Kev	64 Channels
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γ-ray	0.3-14 Mev	128 Channels
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(4) H α and white light telescope

Diameter: 12cm

Resolution: 1"/pixed

(5) Solar and Interplanetary Radio spectrometer

Frequency range 100K-60MHz

Frequency resolution $\frac{f}{f}$ 0.1

Channels 320

2. Satellite

The satellite of Space Solar Telescope has the following Specifications:

Total weight 2.0T.

Total power	1200w		
Orbit altitude	730Km		
Attitude 3-Axis stability			
Pointing accuracy	±6" (solar disc)	±40"	(ecliptic pole)
Stability	±3"/s (solar disc)		
Eccentricity	0.003		
Inclination	98.3deg		
Orbit period	100 min		
Launch time	2005		
Life time	3 year		