



Camera names (9 total)	An, Af/Aa, Bf/Ba, Cf/Ca, Df/Da
View angles at Earth surface	0.0°, ±26.1°, ±45.6°, ±60.0°, ±70.5°
Camera boresight angles	0.0°, ±23.3°, ±40.0°, ±51.2°, ±58.0°
EFL	59.3, 73.4, 95.3, 123.8 mm
FOV	±14.9°, ±12.1°, ±9.4°, ±7.3°
Spectral bands	443, 555, 670, 865 nm
Spectral bandwidths	30, 15, 15, 25 nm (Gaussian FWHM)
CCD architecture	4 lines x 1504 active pixels
Radiometric accuracy	3% at maximum signal
Swath width	413 km (normally edited to 364 km)
Ground sampling	275 m
On-board averaging	2x2, 4x1, 4x4, and no averaging
Optics	Refractive, F/5.5

Line repeat time

40.8 msec

Integration timeSelectable for each spectral band
between 0.2 and 40.8 msec**Data encoding**14-bit ADC linear encoding
12 bits square-root encoded**Data rate allocation**6.5 Mbps peak
3.8 Mbps average**Instrument dimensions**

50" (L) x 30.5" (W) x 34.6" (H)

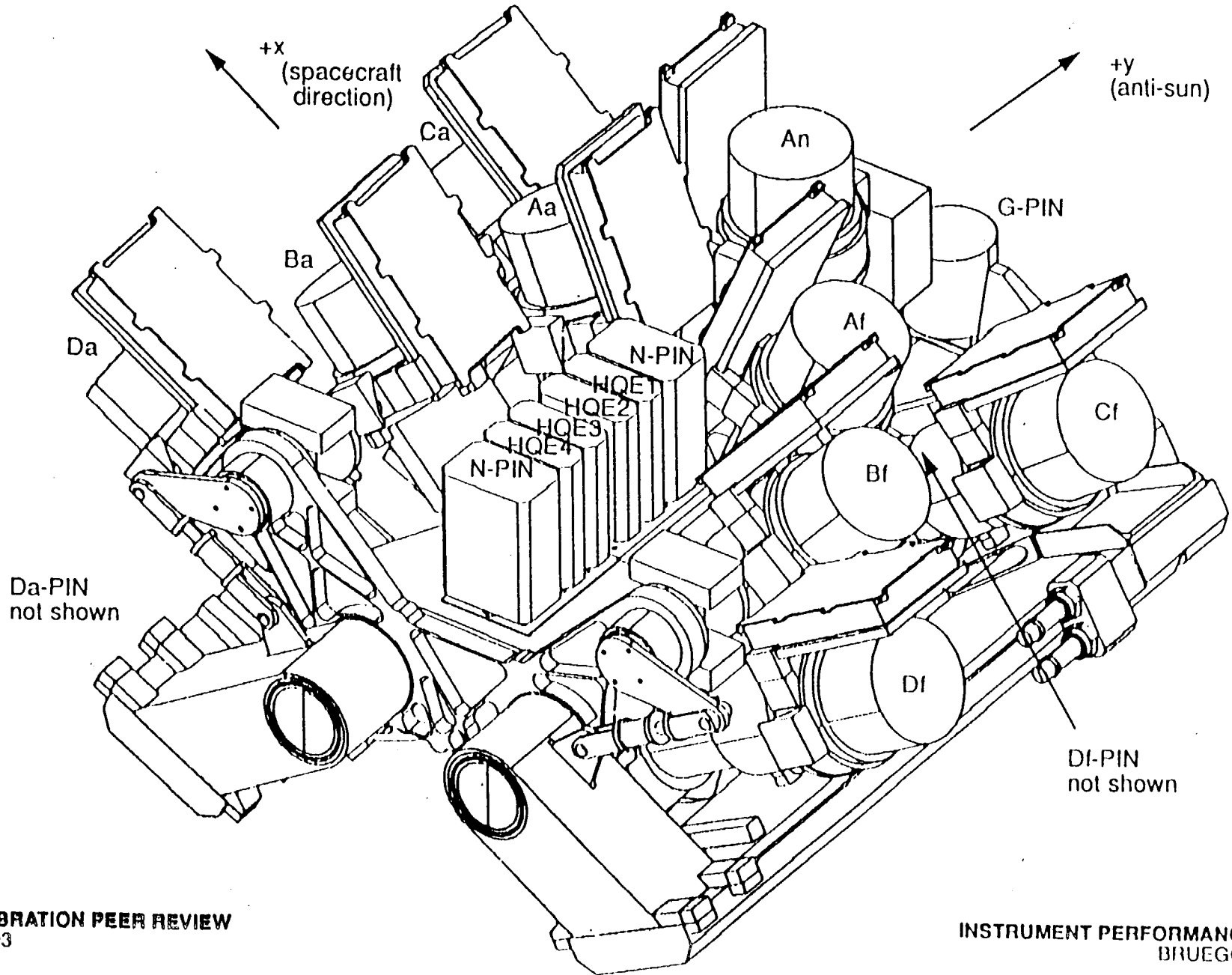
Mass

135 kg

Power allocation

80 W two orbit average

Image registration accuracy ± 250 m cross-track
 ± 500 m down-track**Thermal control**Instrument: Passive radiators
Detectors: Thermoelectric cooled**Operating temperature range** $20 \pm 10^\circ$ C

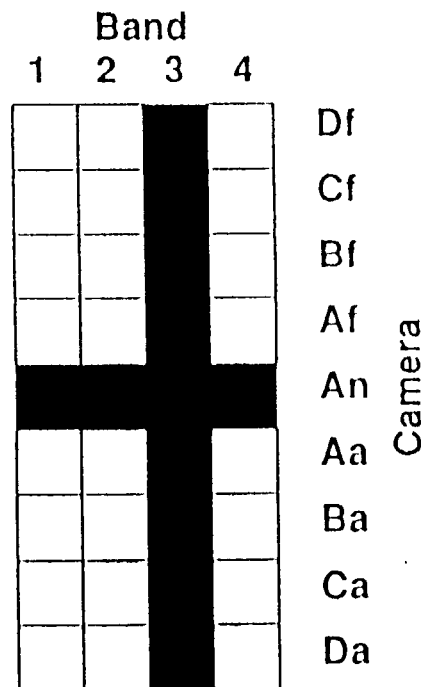


GLOBAL MODE

- Any combination of averaging configurations in the 36 channels which can operate continuously without violating data rate allocation

Example Global Mode configuration consistent with requirements on MISR Data Products

Instantaneous data rate:
5.676 Mbps (packetized)



“Super-stereo”

LOCAL MODE

- Sequential inhibition of averaging in the 4 bands of all 9 cameras to provide high resolution data in all 36 channels for selected ground targets

At-launch product element	Sampling	Comment
TOA directional hemispheric reflectance (albedo)--coarse	35.2 km	Referenced to 30-km altitude
TOA bidirectional reflectance factor	2.2 km	Retrieved at the 9 view angles and referenced to surface or cloud top altitude
TOA directional hemispheric reflectance (albedo)--fine	2.2 km	Referenced to surface or cloud top altitude
Grey-level histogram	2.2 km	Uses nadir high resolution data, all 4 wavelengths
Angular contrast	2.2 km	Uses 275-m data at the 9 view angles, in 1 wavelength

Research product elements:

Cloud cover probability

Cloud-top altitude, derived stereoscopically

Low/middle fractional cloud cover and high-altitude cloud cover

High altitude cloud optical depth and phase function

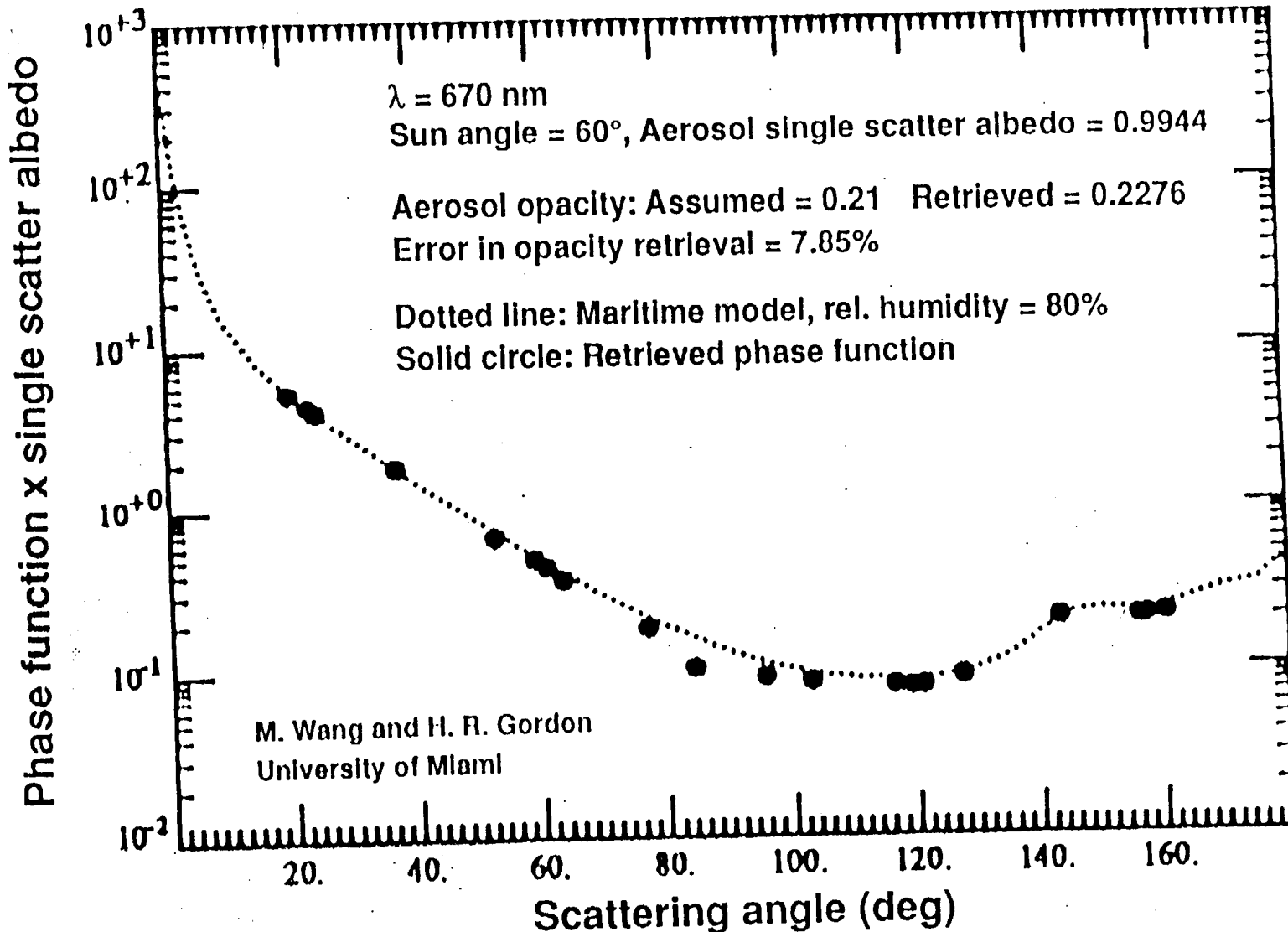
At-launch product element	Sampling	Comment
Aerosol optical depth	17.6 km (land) 2.2 km (ocean)	Retrieved at 4 wave-lengths
Aerosol particle phase function	2.2 km	Promised at-launch over ocean only

Research product elements:

- Aerosol single-scattering albedo
- Aerosol phase function over land
- Aerosol particle size, mean and standard deviation

Note: Values for these product elements will always be reported as part of the aerosol product. Reported values are those which were adopted in the retrieval (e.g., from climatology), or retrieved

MISR Dec. 21 at 34° Latitude



At-launch product element	Sampling	Comment
Bidirectional reflectance factor	1.1 km (land) 2.2 km (tropical ocean)	Retrieved at 9 view angles (land), 3 view angles (ocean), direct illum. only
Hemispheric directional reflectance factor	1.1 km	Retrieved at 9 view angles, direct + diffuse illum.
Directional hemispheric reflectance (albedo)	1.1 km	Direct illumination only
Bi-hemispheric reflectance (albedo)	1.1 km	Direct + diffuse illumination
Downward irradiance	1.1 km	Scaled to solar exo-atmospheric irradiance
Sub-pixel contrast	1.1 km	Uses nadir high res. data

Research product elements:

Leaf area index

Fractional absorbed photosynthetically active radiation