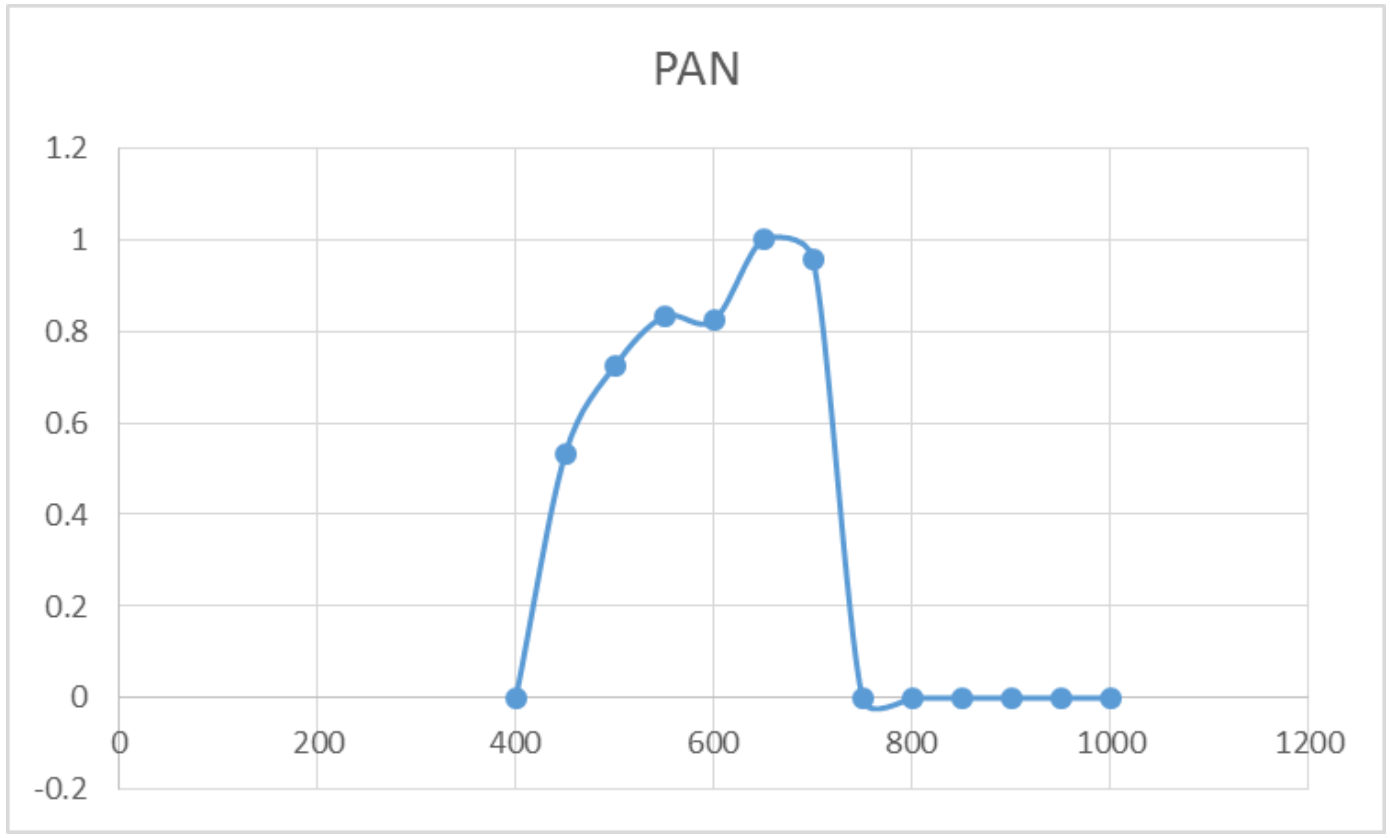
FORMOSAT-5 (FS-5) Spectral Response Function (SRF) & Solar Exo-atmospheric Spectral Irradiances (ESUN)

IPS
NSPO

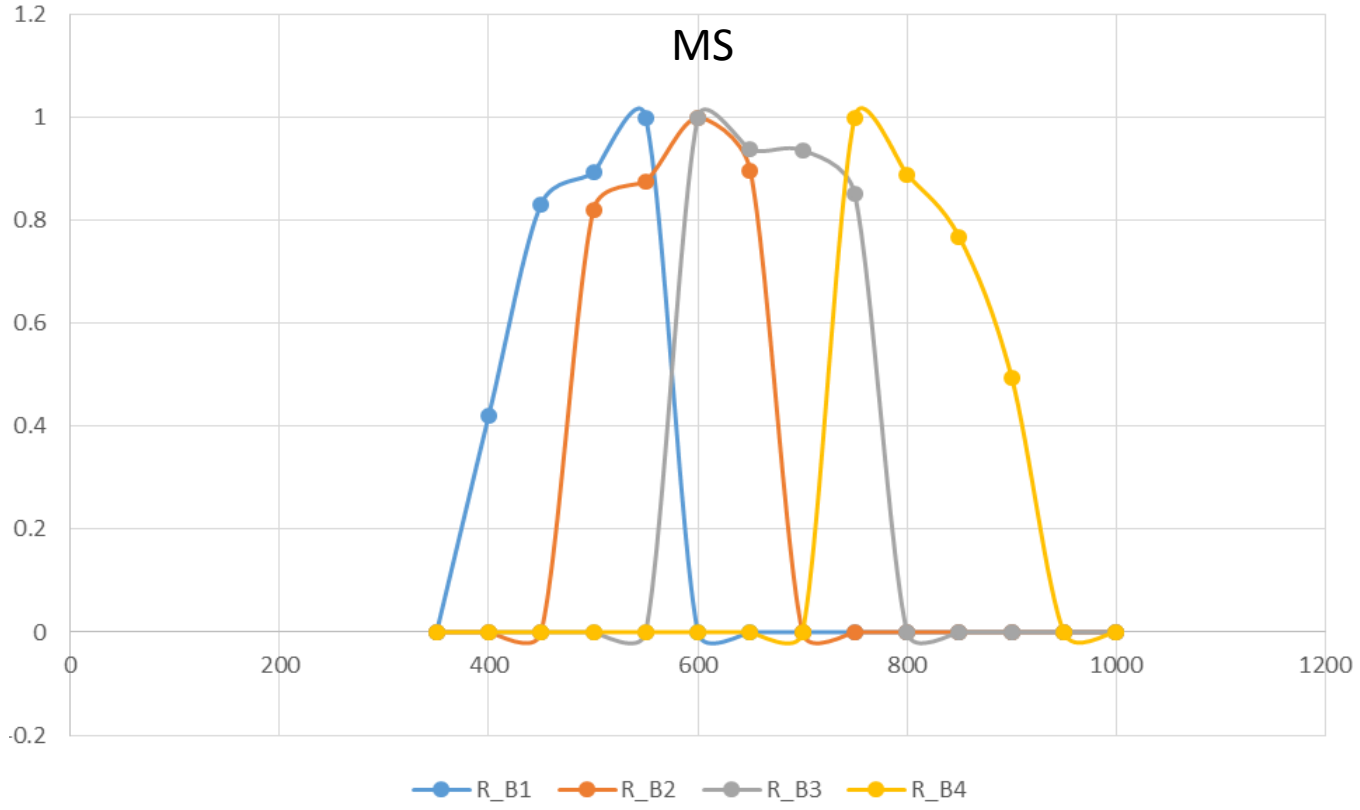
Panchromatic (PAN) Band of FS-5 SRF

- The spectral sensitivity is also expressed as spectral responsivity (R_λ(A/W)) which is listed in the following table.



WV(nm)	R_PAN
400	0
450	0.532893
500	0.72404
550	0.831727
600	0.82359
650	1
700	0.957787
750	0
800	0
850	0
900	0
950	0
1000	0

Multi-spectral (MS) Band of FS-5 SRF



WV(nm)	R_B1	R_B2	R_B3	R_B4
350	0	0	0	0
400	0.421439	0	0	0
450	0.831262	0	0	0
500	0.892909	0.820239	0	0
550	1	0.876055	0	0
600	0	1	1	0
650	0	0.897379	0.937178	0
700	0	0	0.935825	0
750	0	0	0.85099	1
800	0	0	0	0.88941
850	0	0	0	0.767292
900	0	0	0	0.495369
950	0	0	0	0
1000	0	0	0	0

Solar Exo-atmospheric Spectral Irradiances (ESUN)

$$\mathrm{ESUN}_{\lambda} = \frac{\int S(\lambda) * E(\lambda) * d\lambda}{\int S(\lambda) * d\lambda}$$

Where

$S(\lambda)$：Sensor spectral response(S) as function of wavelength(λ)
$E(\lambda)$：Solar Exo-atmospheric irradiance as function of wavelength(λ)

FS-5 ESUN derived from IKONOS PSR and FS-5 Spectral Response

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B1(blue): 1744.4
B2(Green): 1804.6
B3(red): 1584.0
B4(NIR): 1103.7
PAN: 1753.7