7.3. METEOSAT SPECTRAL RESPONSE

The spectral responses for each channel on METEOSAT-2, 3, 4 and 5 are given in the following tables and illustrated in corresponding figures.

Tables relating temperature and infrared radiance are used to convert radiance values to brightness temperatures. This table is supplied by ESA; however, radiances values were divided by 0.533 for METEOSAT-2, 3 and 4 to make the response function normalization consistent with the definition in Eq. (7.1).

7.3.1. METEOSAT-2

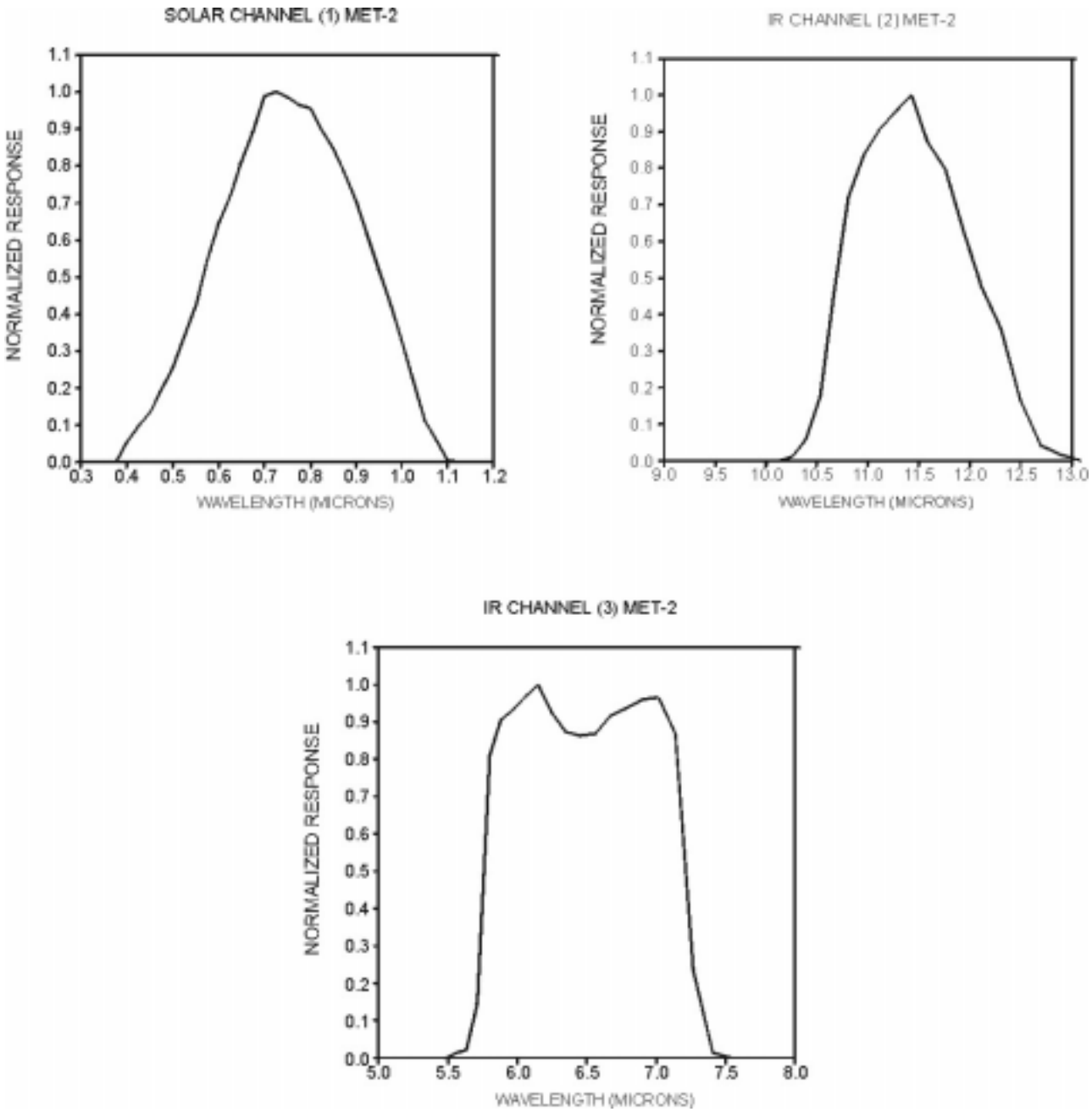

Fig. 7.3.1. Normalized spectral response function for METEOSAT-2.

Table 7.3.1. Normalized Spectral Responses for METEOSAT-2.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength	Response	Wavelength	Response
0.375	0.000	10.130	0.000	5.480	0.000
0.400	0.053	10.260	0.010	5.560	0.015
0.425	0.097	10.390	0.058	5.630	0.021
0.450	0.136	10.530	0.177	5.710	0.145
0.475	0.192	10.670	0.455	5.800	0.811
0.500	0.255	10.810	0.722	5.880	0.904
0.525	0.339	10.960	0.837	5.970	0.935
0.550	0.428	11.110	0.906	6.060	0.968
0.575	0.542	11.270	0.952	6.150	1.000
0.600	0.644	11.430	1.000	6.250	0.923
0.625	0.719	11.590	0.870	6.350	0.874
0.650	0.808	11.760	0.797	6.450	0.862
0.675	0.892	11.940	0.629	6.560	0.869
0.700	0.990	12.120	0.475	6.670	0.915
0.725	1.000	12.310	0.361	6.780	0.937
0.750	0.987	12.500	0.166	6.900	0.961
0.775	0.965	12.700	0.042	7.020	0.967
0.800	0.956	12.900	0.016	7.140	0.868
0.825	0.901	13.100	0.000	7.270	0.236
0.850	0.847			7.410	0.013
0.875	0.779			7.550	0.000
0.900	0.704				
0.925	0.612				
0.950	0.520				
0.975	0.425				
1.000	0.330				
1.025	0.220				
1.050	0.110				
1.075	0.058				
1.100	0.005				
1.125	0.000				

7.3.2. METEOSAT-3

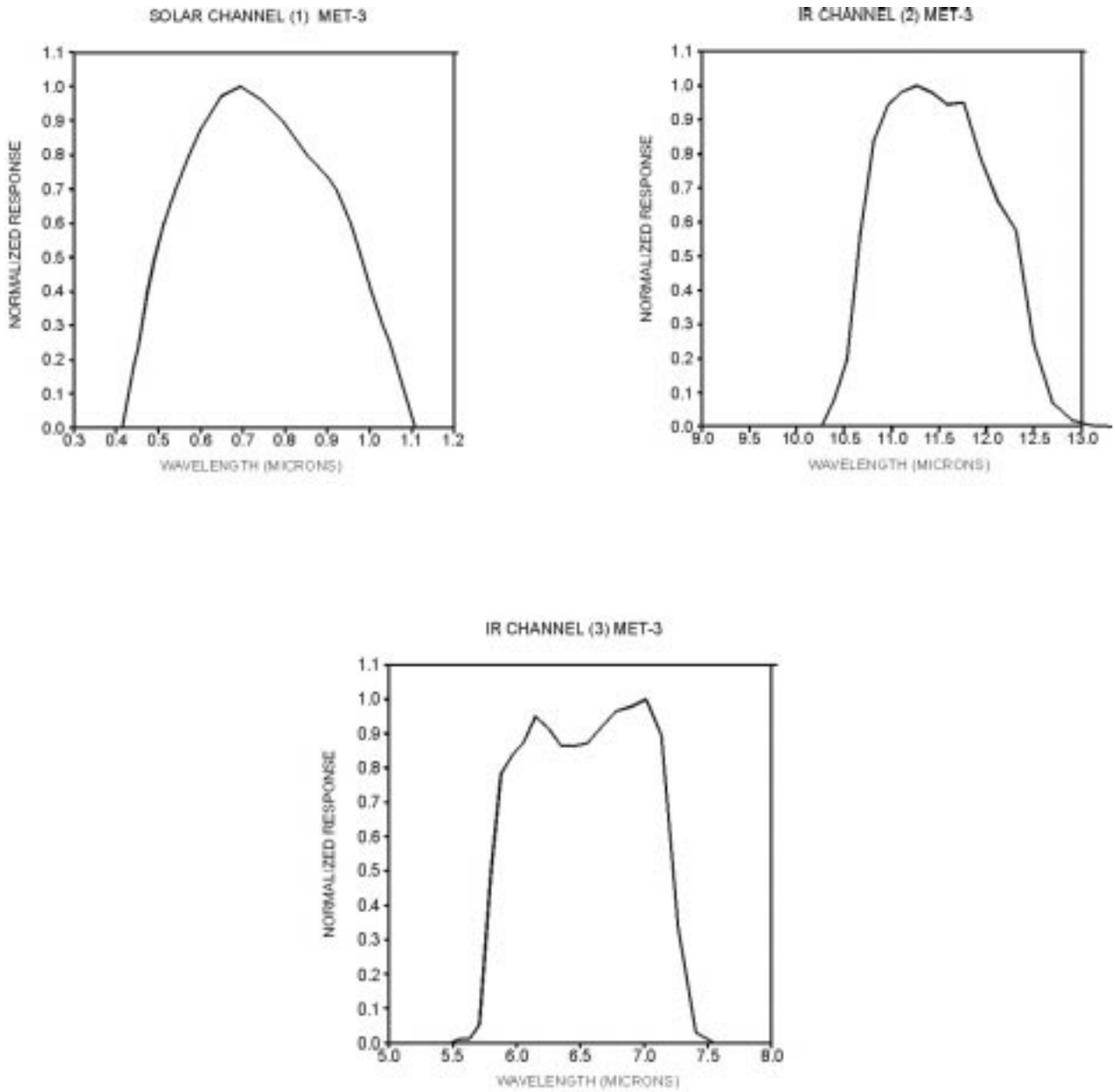

Fig. 7.3.2. Normalized spectral response functions for METEOSAT-3.

Table 7.3.2. Normalized Spectral Responses for METEOSAT-3.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength	Response	Wavelength	Response
0.414	0.00000	10.260	0.00000	5.480	0.00000
0.443	0.18400	10.390	0.07900	5.560	0.01200
0.450	0.22800	10.530	0.19700	5.630	0.01200
0.475	0.40000	10.670	0.56500	5.710	0.05200
0.492	0.50000	10.810	0.83700	5.800	0.50000
0.513	0.60000	10.960	0.94500	5.880	0.78300
0.540	0.70000	11.110	0.98200	5.970	0.84000
0.572	0.80000	11.270	1.00000	6.060	0.87500
0.600	0.87400	11.430	0.98000	6.150	0.94900
0.612	0.90000	11.590	0.94500	6.250	0.91500
0.650	0.97200	11.760	0.95000	6.350	0.86700
0.693	1.00000	11.940	0.78400	6.450	0.86400
0.750	0.95600	12.120	0.66200	6.560	0.87500
0.794	0.90000	12.310	0.57600	6.670	0.92000
0.853	0.80000	12.500	0.24200	6.780	0.96500
0.900	0.73600	12.700	0.06900	6.900	0.97900
0.922	0.70000	12.900	0.02000	7.020	1.00000
0.957	0.60000	13.110	0.00400	7.140	0.89500
0.982	0.50000	13.330	0.00000	7.270	0.33700
1.006	0.40000			7.410	0.03000
1.033	0.30000			7.550	0.00000
1.048	0.25600				
1.110	0.00000				

7.3.3. METEOSAT-4

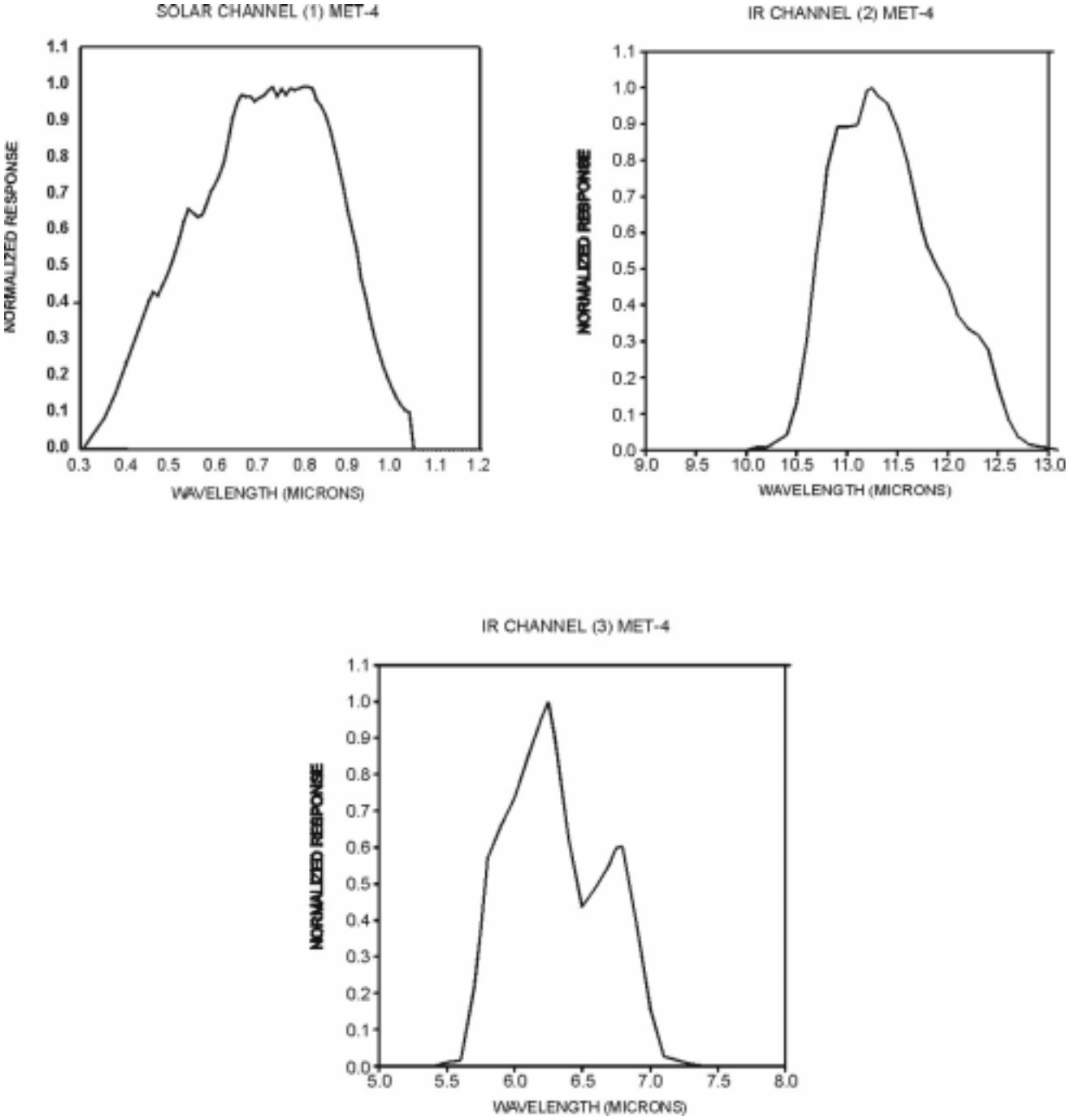

Fig. 7.3.3. Normalized spectral response functions for METEOSAT-4.

Table 7.3.3. Normalized Spectral Responses for METEOSAT-4.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength	Response	Wavelength	Response
0.300	0.00000	10.000	0.00000	5.400	0.00000
0.325	0.04343	10.100	0.00900	5.500	0.01000
0.350	0.08687	10.200	0.00900	5.600	0.01700
0.375	0.15505	10.250	0.01700	5.700	0.21600
0.400	0.23990	10.300	0.02500	5.750	0.38200
0.425	0.32525	10.400	0.04200	5.800	0.57200
0.450	0.41010	10.500	0.12700	5.900	0.66000
0.460	0.43384	10.600	0.30700	6.000	0.73700
0.470	0.42424	10.700	0.54400	6.100	0.84900
0.480	0.44949	10.750	0.65500	6.200	0.95600
0.490	0.47475	10.800	0.77700	6.250	1.00000
0.500	0.50909	10.900	0.89100	6.300	0.89700
0.510	0.54545	11.000	0.89200	6.400	0.62500
0.520	0.58485	11.100	0.89700	6.500	0.43800
0.530	0.62828	11.200	0.99200	6.600	0.49000
0.540	0.66364	11.250	1.00000	6.700	0.54900
0.550	0.65303	11.300	0.97900	6.750	0.59800
0.560	0.64192	11.400	0.95700	6.800	0.60200
0.570	0.64545	11.500	0.88700	6.900	0.38600
0.580	0.67374	11.600	0.79700	7.000	0.15500
0.590	0.71061	11.700	0.66300	7.100	0.02800
0.600	0.73131	11.750	0.60900	7.200	0.01600
0.610	0.75657	11.800	0.56000	7.250	0.01000
0.620	0.79293	11.900	0.50300	7.300	0.00500
0.630	0.84949	12.000	0.45000	7.400	0.00000
0.640	0.91515	12.100	0.37200	-	-
0.650	0.95606	12.200	0.33500	-	-
0.660	0.97778	12.250	0.32600	-	-
0.670	0.97323	12.300	0.32000	-	-
0.680	0.97273	12.400	0.27600	-	-
0.690	0.95960	12.500	0.17600	-	-
0.700	0.96919	12.600	0.08500	-	-
0.710	0.97576	12.700	0.03800	-	-
0.720	0.98990	12.750	0.02800	-	-
0.730	0.99949	12.800	0.01600	-	-
0.740	0.97374	12.900	0.01100	-	-
0.750	0.99444	13.000	0.00600	-	-
0.760	0.97828	13.100	0.00000	-	-
0.770	0.99495	-	-	-	-
0.780	0.99040	-	-	-	-
0.790	0.99495	-	-	-	-
0.800	1.00000	-	-	-	-
0.810	0.99899	-	-	-	-
0.820	0.99495	-	-	-	-
0.830	0.96414	-	-	-	-
0.840	0.94747	-	-	-	-
0.850	0.92172	-	-	-	-

Normalized Spectral Responses for METEOSAT-4 (continued).

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength	Response	Wavelength	Response
0.860	0.88131	-	-	-	-
0.870	0.82879	-	-	-	-
0.880	0.77929	-	-	-	-
0.890	0.72273	-	-	-	-
0.900	0.66010	-	-	-	-
0.910	0.60606	-	-	-	-
0.920	0.55101	-	-	-	-
0.930	0.47222	-	-	-	-
0.940	0.42475	-	-	-	-
0.950	0.36263	-	-	-	-
0.960	0.30960	-	-	-	-
0.970	0.26970	-	-	-	-
0.980	0.22828	-	-	-	-
0.990	0.19949	-	-	-	-
1.000	0.16818	-	-	-	-
1.010	0.14242	-	-	-	-
1.020	0.12222	-	-	-	-
1.030	0.10758	-	-	-	-
1.040	0.10303	-	-	-	-
1.050	0.00000	-	-	-	-

7.3.4. METEOSAT-5

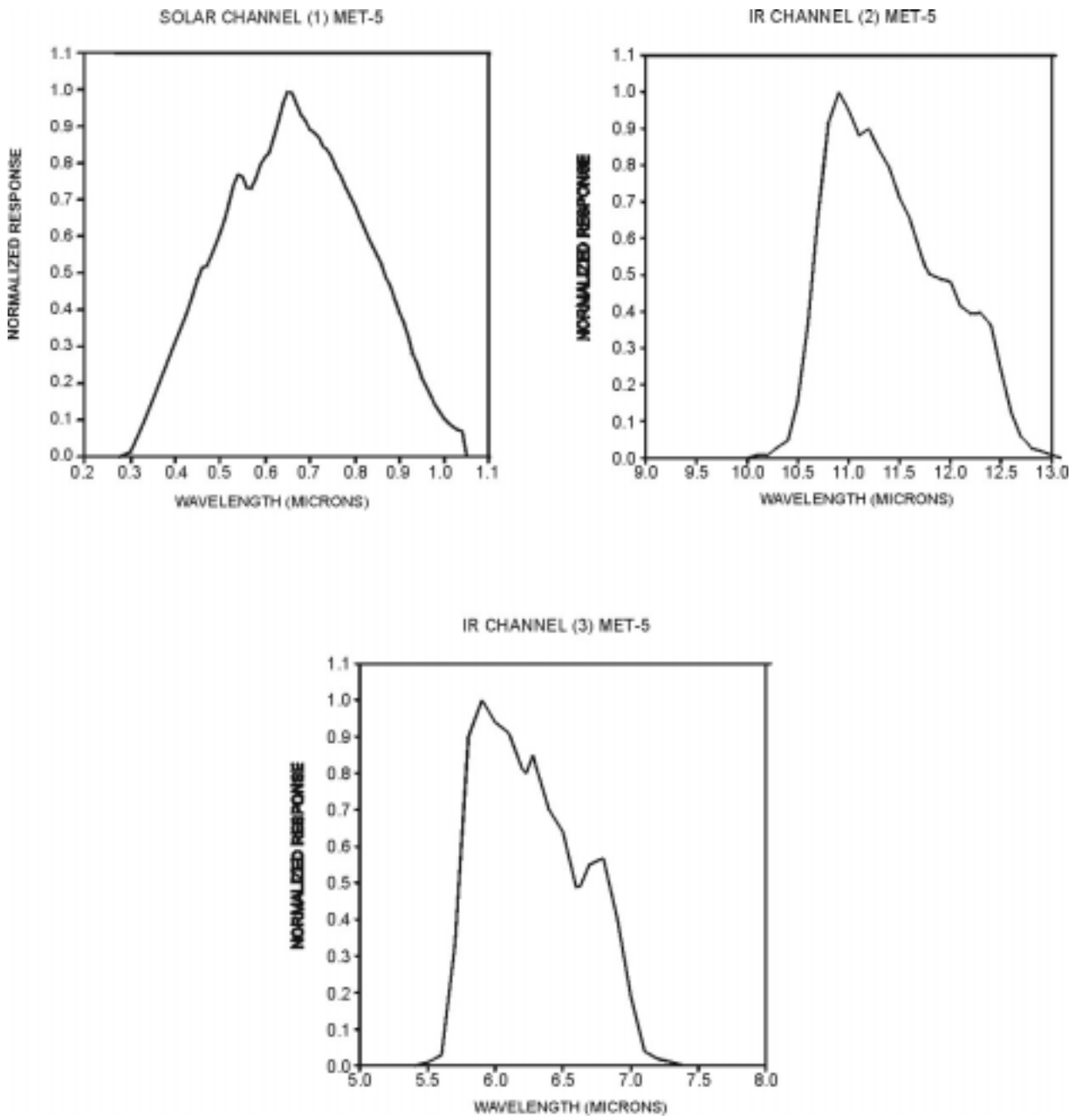

Fig. 7.3.4. Normalized spectral response functions for METEOSAT-5.

Table 7.3.4. Normalized Spectral Responses for METEOSAT-5.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength	Response	Wavelength	Response
0.275	0.00000	10.000	0.00000	5.400	0.00000
0.300	0.01453	10.100	0.00900	5.500	0.01000
0.325	0.08066	10.200	0.00900	5.600	0.03000
0.350	0.15882	10.250	0.01900	5.700	0.33000
0.375	0.23747	10.300	0.02900	5.800	0.90000
0.400	0.31513	10.400	0.04900	5.900	1.00000
0.425	0.39329	10.500	0.15200	6.000	0.94000
0.450	0.48647	10.600	0.37100	6.100	0.91000
0.460	0.51854	10.700	0.65900	6.200	0.81000
0.470	0.52455	10.750	0.79500	6.225	0.80000
0.480	0.55311	10.800	0.91700	6.275	0.85000
0.490	0.58066	10.900	1.00000	6.300	0.82000
0.500	0.61523	11.000	0.94900	6.400	0.70000
0.510	0.65180	11.100	0.88200	6.500	0.64000
0.520	0.69489	11.200	0.89900	6.600	0.49000
0.530	0.74399	11.250	0.87000	6.625	0.49000
0.540	0.77405	11.300	0.83900	6.700	0.55000
0.550	0.76804	11.400	0.79500	6.800	0.57000
0.560	0.73747	11.500	0.71200	6.900	0.40000
0.570	0.73697	11.600	0.65700	7.000	0.19000
0.580	0.76403	11.700	0.56500	7.100	0.04000
0.590	0.80261	11.750	0.52700	7.200	0.02000
0.600	0.82064	11.800	0.50400	7.300	0.01000
0.610	0.83567	11.900	0.48900	7.400	0.00000
0.620	0.87625	12.000	0.48200	-	-
0.630	0.92134	12.100	0.41600	-	-
0.640	0.96844	12.200	0.39500	-	-
0.650	1.00000	12.250	0.39400	-	-
0.660	0.99900	12.300	0.39800	-	-
0.670	0.96794	12.400	0.36300	-	-
0.680	0.93788	12.500	0.24300	-	-
0.690	0.92285	12.600	0.12500	-	-
0.700	0.89780	12.700	0.05800	-	-
0.710	0.88978	12.750	0.04200	-	-
0.720	0.87675	12.800	0.02600	-	-
0.730	0.85170	12.900	0.01800	-	-
0.740	0.84118	13.000	0.00900	-	-
0.750	0.81814	13.100	0.00000	-	-
0.760	0.79108	-	-	-	-
0.770	0.76904	-	-	-	-
0.780	0.73948	-	-	-	-
0.790	0.71593	-	-	-	-
0.800	0.69038	-	-	-	-
0.810	0.66082	-	-	-	-
0.820	0.63427	-	-	-	-
0.830	0.60321	-	-	-	-
0.840	0.57715	-	-	-	-
0.850	0.55461	-	-	-	-

Normalized Spectral Responses for METEOSAT-5 (continued).

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength	Response	Wavelength	Response
0.860	0.52906	-	-	-	-
0.870	0.49198	-	-	-	-
0.880	0.46693	-	-	-	-
0.890	0.43287	-	-	-	-
0.900	0.39729	-	-	-	-
0.910	0.36824	-	-	-	-
0.920	0.32816	-	-	-	-
0.930	0.28407	-	-	-	-
0.940	0.25551	-	-	-	-
0.950	0.21844	-	-	-	-
0.960	0.19188	-	-	-	-
0.970	0.16633	-	-	-	-
0.980	0.14228	-	-	-	-
0.990	0.12425	-	-	-	-
1.000	0.10521	-	-	-	-
1.010	0.09269	-	-	-	-
1.020	0.08417	-	-	-	-
1.030	0.07515	-	-	-	-
1.040	0.07164	-	-	-	-
1.050	0.00000	-	-	-	-

7.3.5. METEOSAT-6

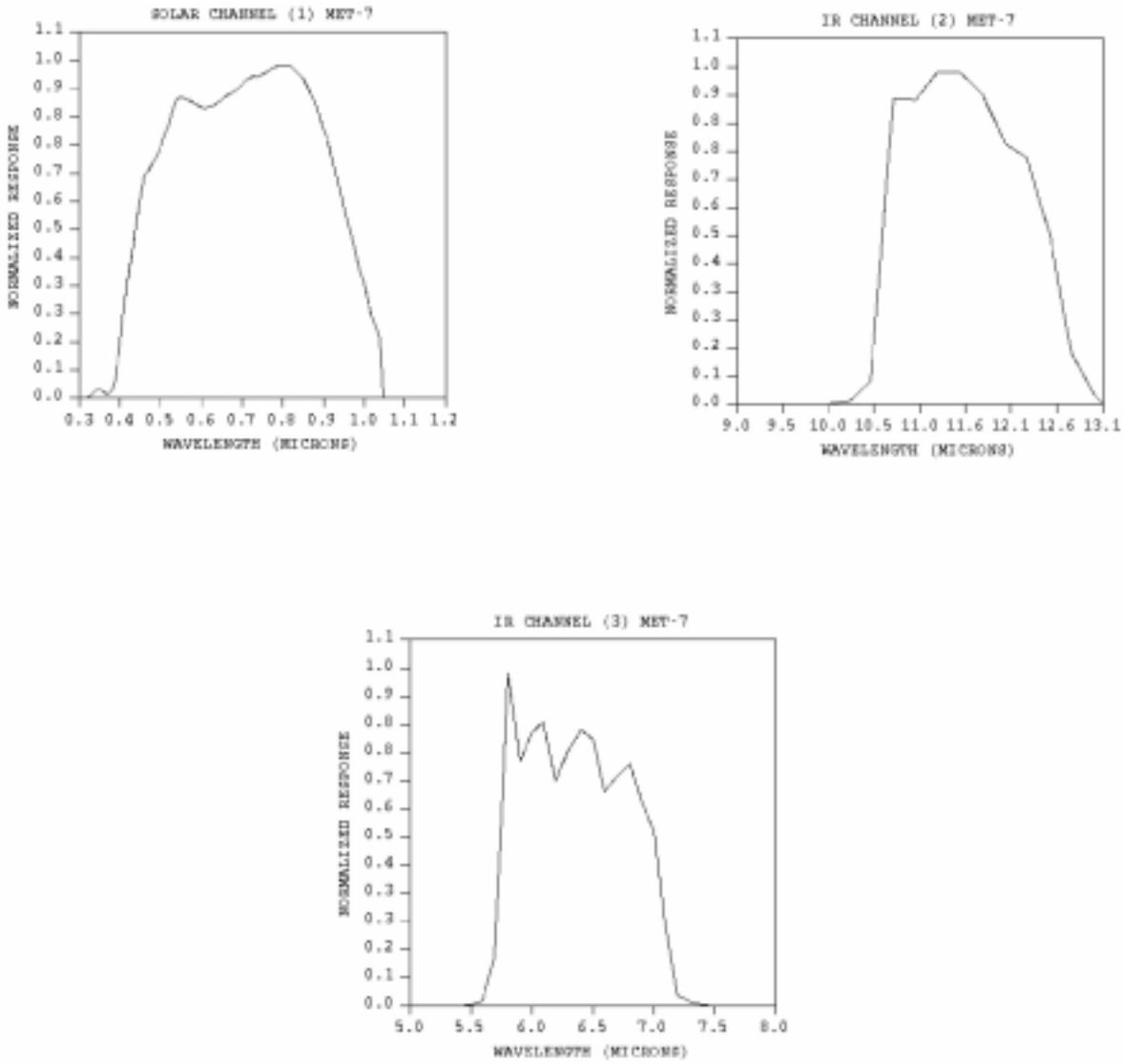

Figure 7.3.5. Normalized spectral response functions for METEOSAT-6.

Table 7.3.5. Normalized Spectral Responses for METEOSAT-6.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength (μm)	Response	Wavelength (μm)	Response
0.300	0.00000	10.000	0.00000	5.400	0.00000
0.325	0.02350	10.100	0.00700	5.500	0.00700
0.350	0.10700	10.200	0.00700	5.600	0.01500
0.375	0.19050	10.250	0.01400	5.700	0.22400
0.400	0.27450	10.300	0.02200	5.750	0.43000
0.425	0.35850	10.400	0.03700	5.800	0.64000
0.450	0.44150	10.500	0.11100	5.900	0.72500
0.460	0.49150	10.600	0.27600	6.000	0.79700
0.470	0.50100	10.700	0.49900	6.100	0.88600
0.480	0.53850	10.750	0.60700	6.200	0.96800
0.490	0.56500	10.800	0.72800	6.250	1.00000
0.500	0.60400	10.900	0.85500	6.300	0.89800
0.510	0.63500	11.000	0.87200	6.400	0.62700
0.520	0.68000	11.100	0.88600	6.500	0.43900
0.530	0.71650	11.200	0.98700	6.600	0.45100
0.540	0.74950	11.250	1.00000	6.700	0.46900
0.550	0.75000	11.300	0.99300	6.750	0.49500
0.560	0.73150	11.400	1.00000	6.800	0.51800
0.570	0.74900	11.500	0.95700	6.900	0.36000
0.580	0.77900	11.600	0.88300	7.000	0.15700
0.590	0.80100	11.700	0.75800	7.100	0.03000
0.600	0.81550	11.750	0.70800	7.200	0.01700
0.610	0.83250	11.800	0.65200	7.250	0.01100
0.620	0.86550	11.900	0.58700	7.300	0.00500
0.630	0.91550	12.000	0.53200	7.350	0.00000
0.640	0.96850	12.100	0.44100	-	-
0.650	0.99550	12.200	0.40200	-	-
0.660	1.00000	12.250	0.39300	-	-
0.670	0.99350	12.300	0.38600	-	-
0.680	0.97150	12.400	0.33200	-	-
0.690	0.96250	12.500	0.21100	-	-
0.700	0.95450	12.600	0.10700	-	-
0.710	0.93900	12.700	0.04900	-	-
0.720	0.92550	12.750	0.03500	-	-
0.730	0.89950	12.800	0.02200	-	-
0.740	0.88300	12.900	0.01500	-	-
0.750	0.85950	13.000	0.00800	-	-
0.760	0.82400	13.100	0.00000	-	-
0.770	0.80700	-	-	-	-
0.780	0.77550	-	-	-	-
0.790	0.75000	-	-	-	-
0.800	0.72000	-	-	-	-
0.810	0.69050	-	-	-	-
0.820	0.66200	-	-	-	-
0.830	0.62400	-	-	-	-
0.840	0.59350	-	-	-	-
0.850	0.56350	-	-	-	-
0.860	0.52700	-	-	-	-

Normalized Spectral Responses for METEOSAT-6 (continued).

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength (μm)	Response	Wavelength (μm)	Response
0.870	0.48900	-	-	-	-
0.880	0.45550	-	-	-	-
0.890	0.42000	-	-	-	-
0.900	0.37850	-	-	-	-
0.910	0.34200	-	-	-	-
0.920	0.31050	-	-	-	-
0.930	0.26700	-	-	-	-
0.940	0.23750	-	-	-	-
0.950	0.20200	-	-	-	-
0.960	0.17300	-	-	-	-
0.970	0.14900	-	-	-	-
0.980	0.12950	-	-	-	-
0.990	0.10850	-	-	-	-
1.000	0.09400	-	-	-	-
1.010	0.07900	-	-	-	-
1.020	0.07150	-	-	-	-
1.030	0.06100	-	-	-	-
1.040	0.05900	-	-	-	-
1.050	0.00000	-	-	-	-

7.3.6. METEOSAT-7

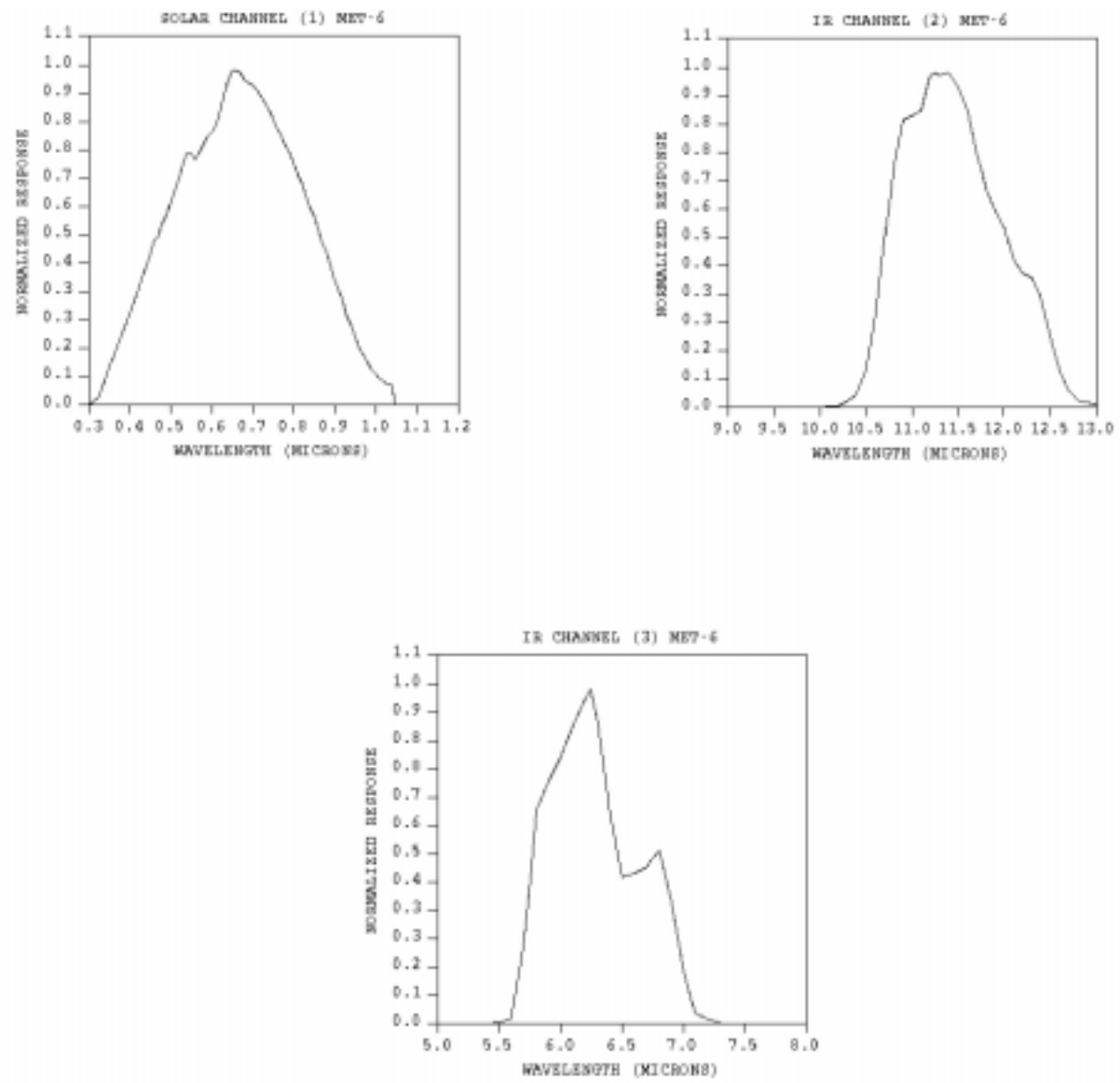

Figure 7.3.6. Normalized spectral response functions for METEOSAT-7.

Table 7.3.6. Normalized Spectral Responses for METEOSAT-7.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength (μm)	Response	Wavelength (μm)	Response
0.300	0.00000	10.000	0.00000	5.400	0.00000
0.310	0.00100	10.100	0.00400	5.500	0.00700
0.320	0.00350	10.200	0.00800	5.600	0.01500
0.330	0.01100	10.250	0.01000	5.700	0.14600
0.340	0.02500	10.300	0.02200	5.750	0.57300
0.350	0.03000	10.400	0.04700	5.800	1.00000
0.360	0.02500	10.500	0.07200	5.900	0.73400
0.370	0.01350	10.600	0.41100	6.000	0.82200
0.380	0.02350	10.700	0.75000	6.100	0.85100
0.390	0.05850	10.750	0.92000	6.200	0.67800
0.400	0.17050	10.800	0.91900	6.250	0.72300
0.410	0.26950	10.900	0.91700	6.300	0.76800
0.420	0.35000	11.000	0.91500	6.400	0.82900
0.430	0.43750	11.100	0.94800	6.500	0.80100
0.440	0.51750	11.200	0.98100	6.600	0.64400
0.450	0.59100	11.250	0.99800	6.700	0.68800
0.460	0.67400	11.300	0.99800	6.750	0.70700
0.470	0.68450	11.400	0.99900	6.800	0.72700
0.480	0.70500	11.500	1.00000	6.900	0.61000
0.490	0.72950	11.600	0.97400	7.000	0.52700
0.500	0.75450	11.700	0.94700	7.100	0.24800
0.510	0.78700	11.750	0.93400	7.200	0.03200
0.520	0.82350	11.800	0.90400	7.250	0.02300
0.530	0.86400	11.900	0.84500	7.300	0.01300
0.540	0.89750	12.000	0.78600	7.400	0.00400
0.550	0.90800	12.100	0.76800	7.500	0.00000
0.560	0.90000	12.200	0.75100	-	-
0.570	0.89500	12.250	0.74200	-	-
0.580	0.88800	12.300	0.69600	-	-
0.590	0.88050	12.400	0.60400	-	-
0.600	0.87300	12.500	0.51200	-	-
0.610	0.87250	12.600	0.36800	-	-
0.620	0.87650	12.700	0.22500	-	-
0.630	0.87850	12.750	0.15300	-	-
0.640	0.89100	12.800	0.12800	-	-
0.650	0.89800	12.900	0.07900	-	-
0.660	0.90750	13.000	0.03000	-	-
0.670	0.91400	13.100	0.00000	-	-
0.680	0.92350	-	-	-	-
0.690	0.93100	-	-	-	-
0.700	0.94300	-	-	-	-
0.710	0.95350	-	-	-	-
0.720	0.96250	-	-	-	-
0.730	0.97150	-	-	-	-
0.740	0.96750	-	-	-	-
0.750	0.97350	-	-	-	-
0.760	0.98000	-	-	-	-
0.770	0.98850	-	-	-	-
0.780	0.99650	-	-	-	-

Normalized Spectral Responses for METEOSAT-7.

Channel 1		Channel 2		Channel 3	
Wavelength (μm)	Response	Wavelength (μm)	Response	Wavelength (μm)	Response
0.790	0.99750	-	-	-	-
0.800	1.00000	-	-	-	-
0.810	0.99850	-	-	-	-
0.820	0.99750	-	-	-	-
0.830	0.98950	-	-	-	-
0.840	0.97750	-	-	-	-
0.850	0.96400	-	-	-	-
0.860	0.94200	-	-	-	-
0.870	0.91750	-	-	-	-
0.880	0.88650	-	-	-	-
0.890	0.85400	-	-	-	-
0.900	0.81700	-	-	-	-
0.910	0.77800	-	-	-	-
0.920	0.73550	-	-	-	-
0.930	0.68900	-	-	-	-
0.940	0.63300	-	-	-	-
0.950	0.58450	-	-	-	-
0.960	0.53600	-	-	-	-
0.970	0.48450	-	-	-	-
0.980	0.43750	-	-	-	-
0.990	0.38750	-	-	-	-
1.000	0.34550	-	-	-	-
1.010	0.29400	-	-	-	-
1.020	0.25300	-	-	-	-
1.030	0.21350	-	-	-	-
1.040	0.18100	-	-	-	-
1.050	0.00000	-	-	-	-