Status of AMSR3 Level 1 Products (Ver. 01A)

Earth Observation Research Center

Japan Aerospace Exploration Agency

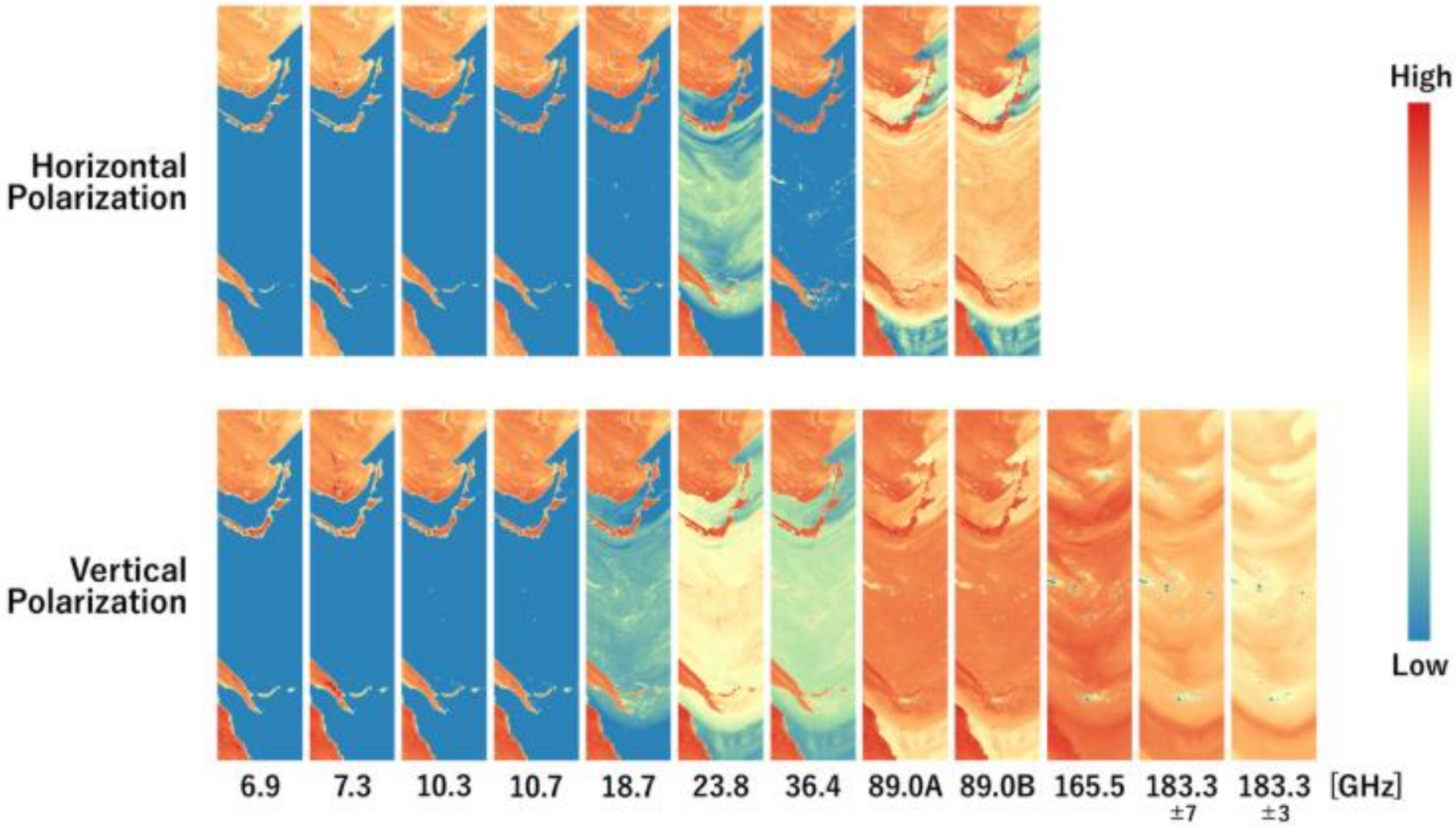
July 30, 2026

Current Status and Schedule

- **2025.06.29** GOSAT-GW (IBUKI-GW) launched from Tanegashima Space Center
- **2025.08.11** Started AMSR3 observation
- **2025.09.05** Issued press release on AMSR3 initial observation results
- **2025.10.08** Completed initial functional verification and transitioned to nominal operation
- **2025.11.21** Updated L1 processing (Ver.00B)
- **2025.11.27** Started providing preliminary products to collaborating agencies and PIs for evaluation
- **2026.03.05** Updated L1 processing (Ver.00C)
- **2026.04.02** Started providing preliminary Near-Real-Time products to approved GCOM-W special users
- **2026.06.04** Updated L1 processing (Ver.01A: release version)
- **2026.06.30** Public release

* Public release readiness was confirmed prior to data release using predefined criteria, including product accuracy.

Level 1B: Brightness Temperature (TBB)



Observations over Japan from AMSR3's 21 channels
(Data from an ascending orbit on August 16, 2025)

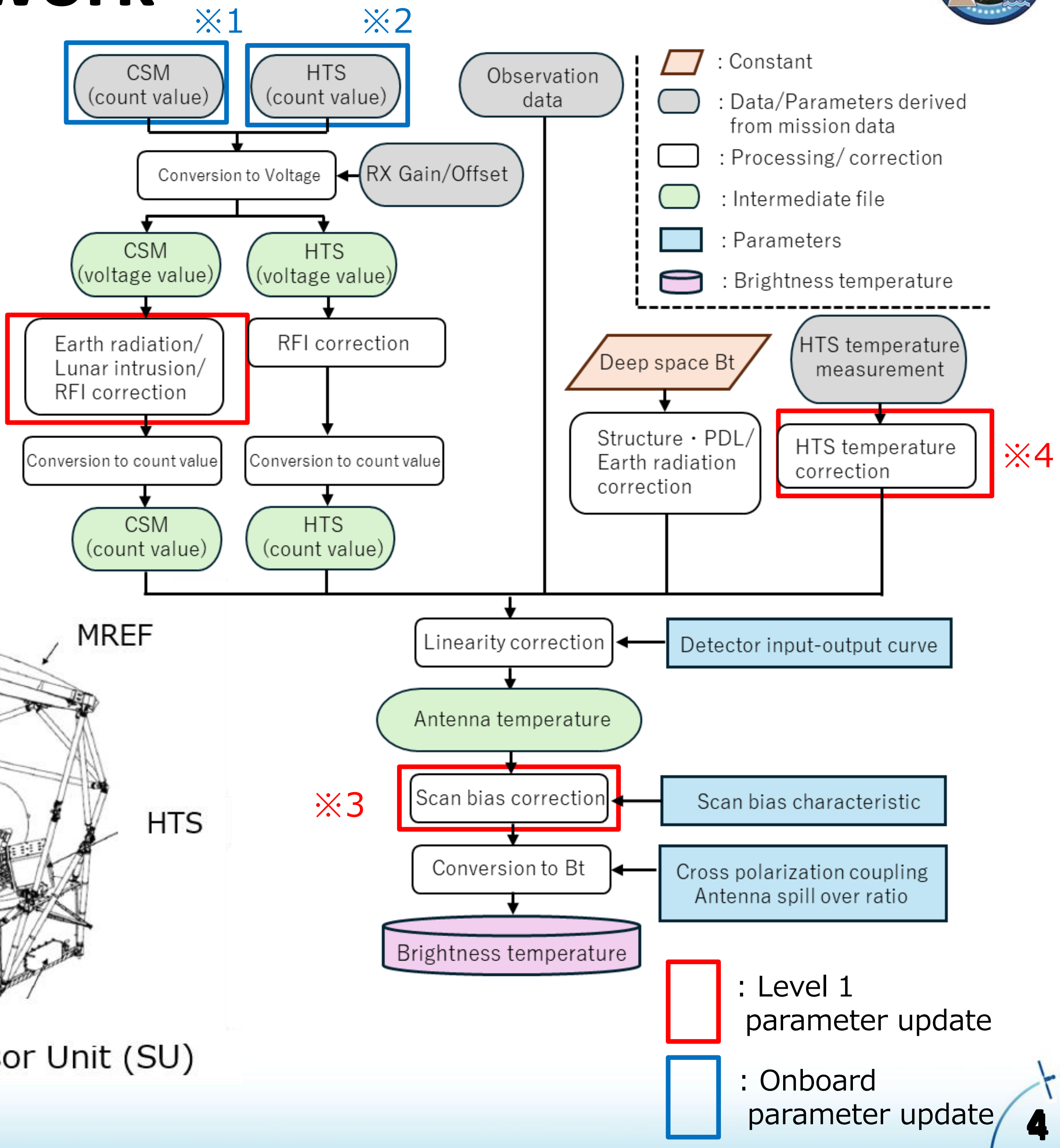
Radiometric Calibration Framework

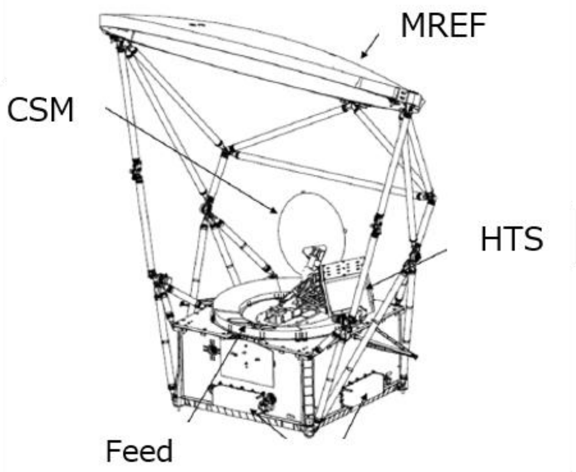
◻ Framework Overviews

- ✓ Overall radiometric calibration flow (see right figure)
- ✓ Onboard and Level1 parameters updated based on on-orbit characterization

◻ Parameter Updates from Initial Calibration

- ✓ Onboard updates:
  - CSM data acquisition timing ※1
  - HTS thermal control ※2
- ✓ Level 1 parameter updates:
  - Scan-bias correction ※3
  - HTS temperature correction ※4
    (HTS temperature-step handling)
  - RFI correction, etc. ※5





AMSR3 Sensor Unit (SU)

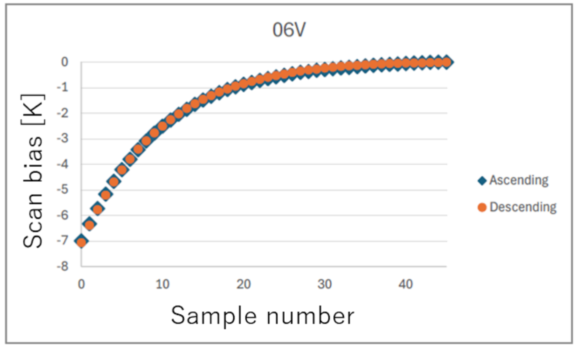
Radiometric Performance

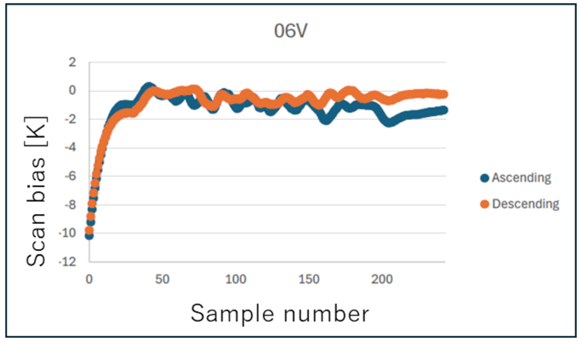
Center frequency [GHz]	Polarization	Band width [MHz]	NEdT (1σ)[K]		
			Specification	Ground-test measurement (H/V)	On-orbit measurement (H/V)
6.925	V/H	350	< 0.34	< 0.31 / < 0.30	< 0.29 / < 0.28
7.3	V/H	350	< 0.43	< 0.30 / < 0.30	< 0.30 / < 0.27
10.25	V/H	500	< 0.33	< 0.29 / < 0.28	< 0.33 / < 0.32
10.65	V/H	100	< 0.70	< 0.59 / < 0.59	< 0.56 / < 0.57
18.7	V/H	200	< 0.70	< 0.45 /< 0.45	< 0.40 / < 0.41
23.8	V/H	400	< 0.60	< 0.37 / < 0.40	< 0.32 / < 0. 35
36.42	V/H	840	< 0.70	< 0.37 / < 0.35	< 0.32 / < 0.32
89.0 A/B	V/H	3000	< 1.20	<0.72 / <0.68 @89A	< 0.59 / < 0.54 @89A
				<0.72 / <0.77 @89B	< 0.58 / < 0.62 @89B
165.5(*1)	V	3200	< 1.50	< 0.86	< 0.73
183.31±3	V	1470×2	< 1.50	< 1.03	< 0.96
183.31±7	V	1700×2	< 1.50	< 1.11	< 1.00

(*1) The 165.5 GHz ± 300 MHz band is excluded because the Double-Sideband (DSB) method is used.

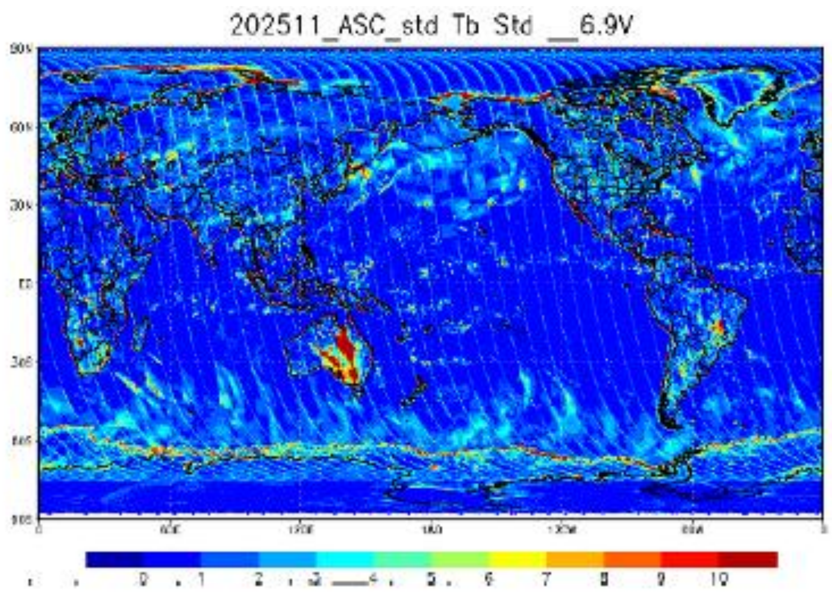
Scan Bias Correction

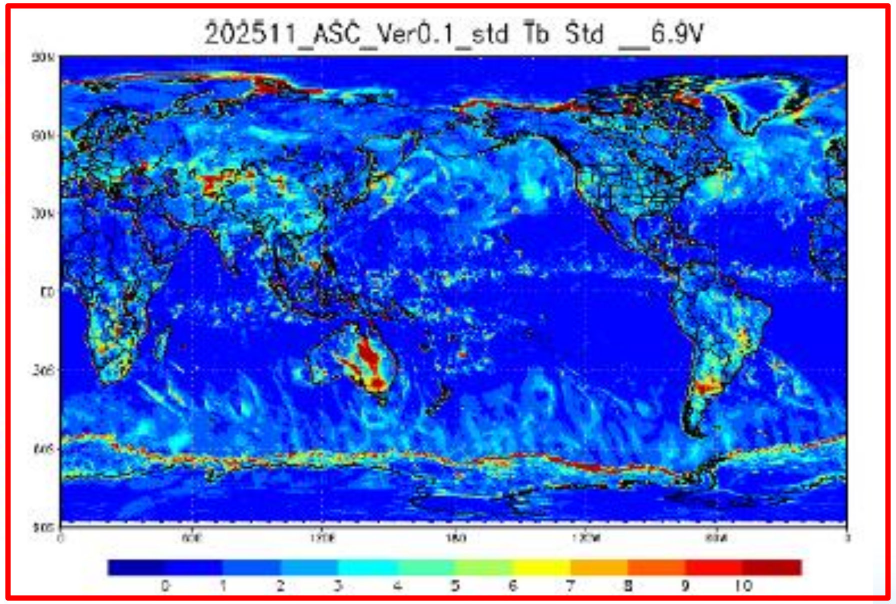
- Correction of scan-dependent BT biases (e.g., partial blockage by onboard calibration sources)
  - ✓ **Action**:
    - AMSR3 scan bias evaluated and corrected following the AMSR2 methodology
    - Separate analyses over ocean and land (low-variability Siberia)
    - Bias approximated using second-order polynomial functions
  - ✓ **Result:**
    - Scan bias characteristics identified at 6.9-10.65 GHz (Right : 6.9 GHz V-pol example)
    - Edges biases effectively reduced after correction （Bottom : 6.9 GHz V-pol example）
    - Improved spatial uniformity across the entire scan





Scan bias characteristics at 6.9 GHz (V-pol)
Top: Ocean (scan edge)
Bottom: Land (full scan over Siberia)





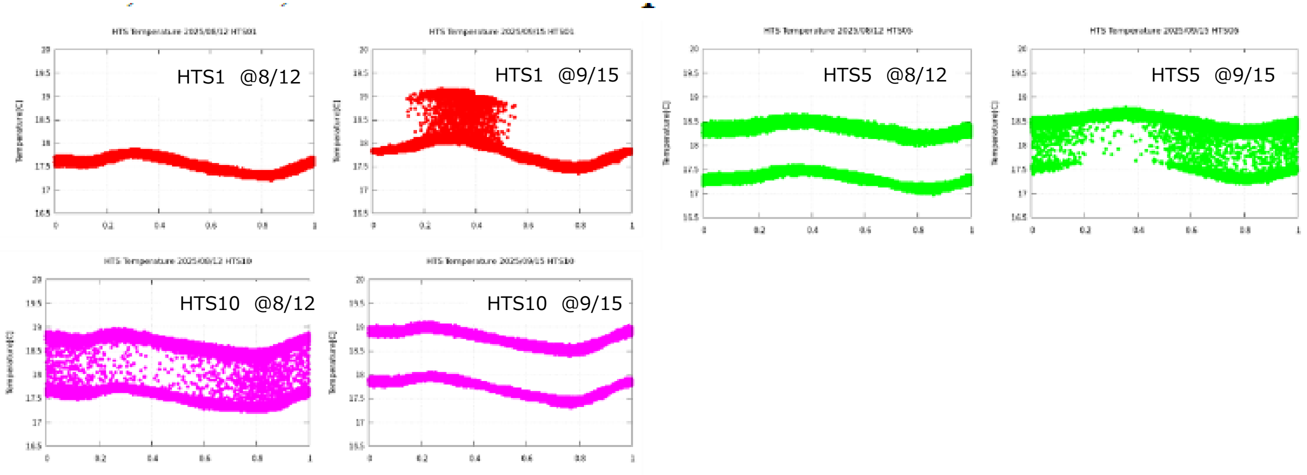
Brightness temperature distribution
at 6.9GHz (V-pol)
(Left)Pre-correction;
(Right) Post-correction

HTS Temperature Correction

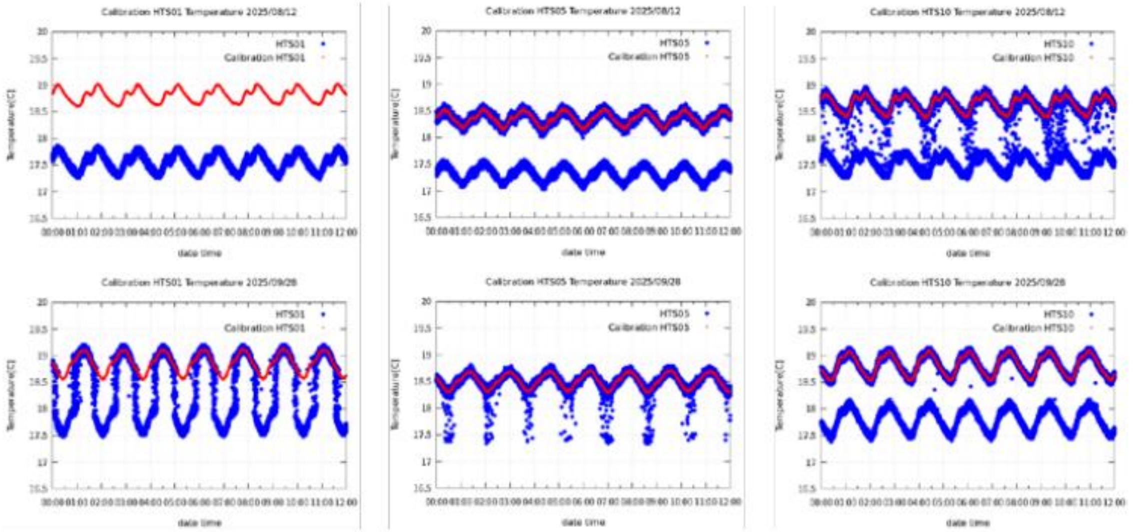
- ✓ **Issue**:
  - Step-like transitions between high and low temperature levels across all 10 HTS sensors, with a temperature difference of 1.2 ℃ (lower-left).
- ✓ **Action**:
  - Step events correlated with SPC* temperature and corrected in L1 processing by selecting appropriate HTS temperature values based on SPC temperature.

* SPC (Signal Processor of Control unit)

- ✓ **Result**:
  - Step-like discontinuities were successfully corrected, and continuous monitoring will be maintained during the nominal calibration phase. (lower-right)



HTS Temperature time series during step events
(Representative examples from HTS1, HTS5, and HTS10)

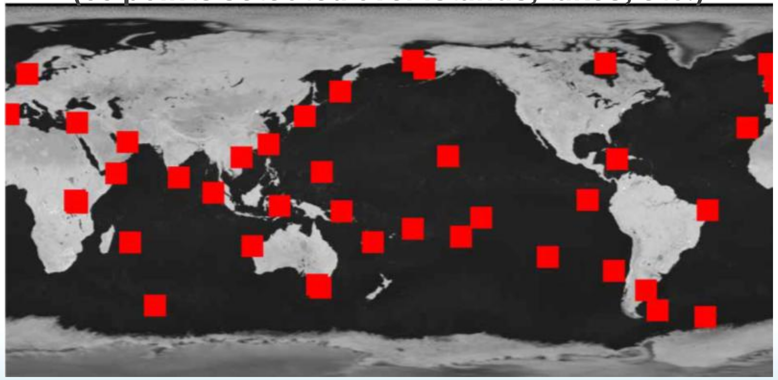


Corrected HTS temperature (Blue: Original, Red: Corrected)
(Representative examples from HTS1, HTS5, and HTS10)

Geometric Calibration

- Geometric Calibration Method
  - ✓ Geolocation errors evaluated using coastline matching
  - ✓ Observed brightness temperature maps ⇔ land-sea fraction patterns (GCP)
- Calibration Parameter for Geometric correction
  - ✓ Rotation offset
  - ✓ Observation start timing
  - ✓ Line-of-sight vectors
  - ✓ (Fixed) Antenna geometry (MREF, SU alignment)
- Results
  - ✓ Post-calibration geometric errors are well within 20% of the IFOV for all channels

Locations of GCPs
(65 points selected over islands, lakes, etc.)



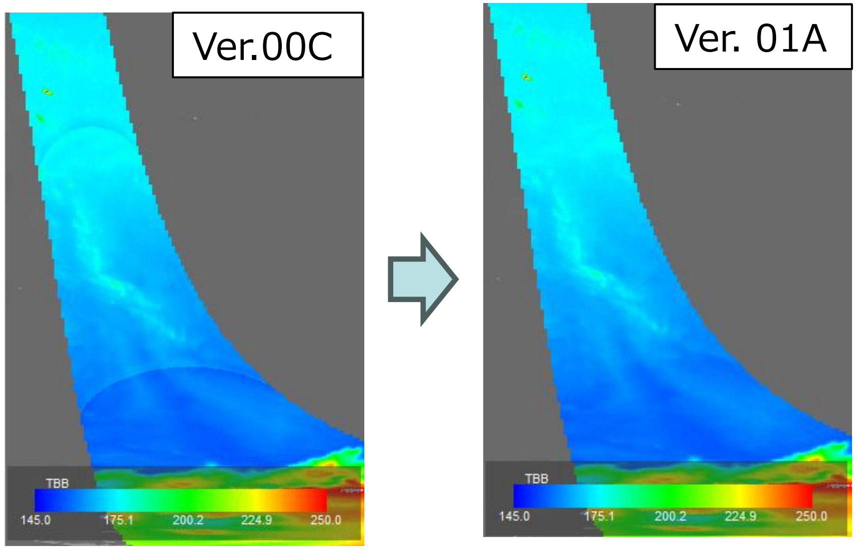
Geometric error for each AMSR3 frequency after geometric correction (around the scan center)

Frequency [GHz]	Geometric Error (Average)			
	V-pol Azimuth Direction	V-pol Along-track Direction	H-pol Azimuth Direction	H-pol Along-track Direction
6.925	-0.03 km	-0.07 km	-0.06 km	0.64 km
7.3	-0.21 km	0.13 km	0.04 km	0.60 km
10.25	-0.03 km	-0.05 km	0.01 km	0.38 km
10.65	0.01 km	0.09 km	-0.01 km	0.28 km
18.7	0.02 km	0.07 km	0.05 km	0.17 km
23.8	0.01 km	0.15 km	0.00 km	0.20 km
36.42	-0.01 km	0.13 km	-0.03 km	0.15 km
89.0(A)	-0.03 km	-0.02 km	-0.02 km	-0.02 km
89.0(B)	-0.04 km	-0.06 km	-0.04 km	-0.05 km
165.5*	-0.10 km	-0.17 km	—	—

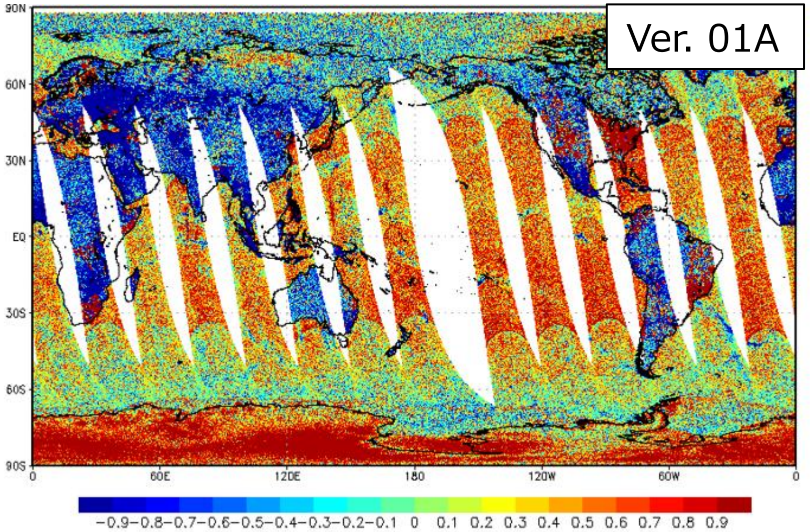
*Comparable accuracy confirmed for 183.31GHz via 165.5GHz comparison.

Brightness Temperature Discontinuity at 6.9 GHz (V-pol)

- ✓ **Issue**:
  - In Versions 00B and 00C, brightness temperature discontinuities at 6.9 GHz (V-pol) were identified, associated with switching of the receiver gain and offset.
- ✓ **Action**:
  - Improved the count-to-brightness temperature conversion parameters based on analysis of on-orbit data.
- ✓ **Result**:
  - In Version 01A, brightness temperature discontinuities at 6.9 GHz (V-pol) are reduced.
  - However, discontinuities (up to ~0.8 K) are still identified at the timing of gain/offset switching. Therefore, further improvements will be implemented during the nominal calibration phase.



Brightness temperature at 6.9 GHz (V-pol)
March 15, 2026 / Orbit 18 (Ascending)



Difference in Brightness Temperature between 6.9 GHz and 7.3 GHz (V-pol) , May 10, 2026
*Color scale is narrowed to highlight variations. Discontinuities were confirmed over ocean regions.

Level 1R: Brightness Temperature

- Level 1R (L1R) product that matches the center position and size of each footprint in each frequency band by spatial matching process.
- In the AMSR3 Level 1R product, brightness temperatures are provided with spatial resolutions matched to the equivalent frequencies of 6.9 GHz, 10.65 GHz, 23.8 GHz, and 36.42 GHz.
- The frequency channels targeted for the L1R product are listed in the table on the right.

-	FOV06	FOV10	FOV23	FOV36
6.925G V/H	☆			
7.3G V/H	○			
10.25G V/H	○	○		
10.65G V/H	○	☆		
18.7G V/H	○	○	○	
23.8G V/H	○	○	☆	
36.42G V/H	○	○	○	☆
89.0G V/H	○	○	○	○
165.5G V			○	○
183.3±3G V			○	○
183.3±7G V			○	○
spatial resolution (FOV)	6.925GHz-equivalent	10.65GHz-equivalent	23.8GHz-equivalent	36.42GHz-equivalent
observation center position	89GHz A-scan odd-points	89GHz A-scan odd-points	89GHz A-scan odd-points	89GHz A-scan odd-points

Level 1R: Brightness Temperature

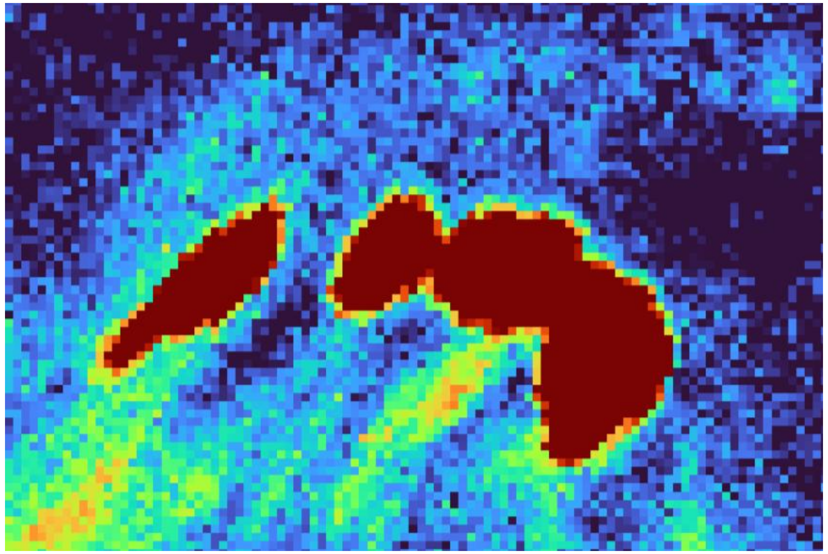
- For the creation of the AMSR3 Level 1R product, we used the Backus–Gilbert (BG) method.
- The smoothing parameter (λ) was selected using the method proposed by Maeda et al. (2016).

$$\lambda = \mathrm{argmin}\ \left\| \mathbf{A}^{\mathrm{T}}\mathbf{w} - \mathbf{a}_{\mathrm{t}} \right\|_1 \quad \mathrm{s.t.}\ \|\mathbf{w}\|_1 < c$$

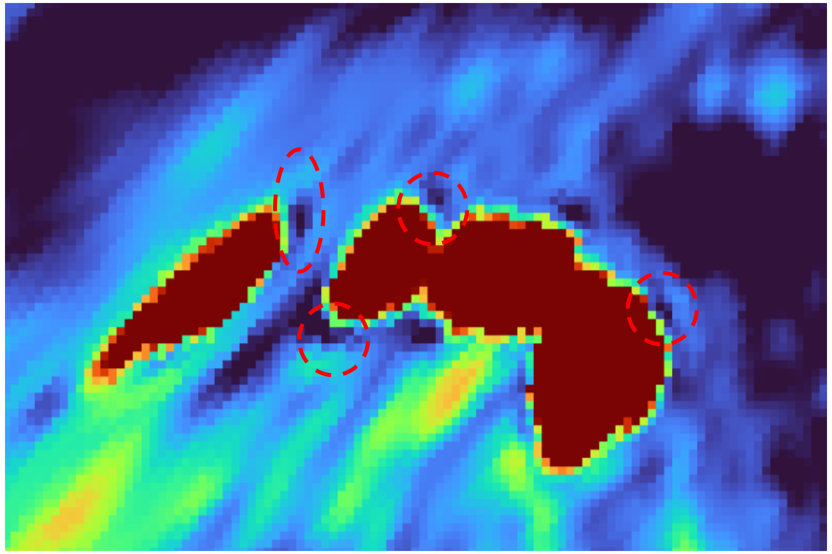
$\mathbf{a}_{\mathrm{t}}$: *target AP*
$\mathbf{A}$: foward matrix $\mathbf{w}$: filter coeficients

- In AMSR2 Level 1R, the tolerance value for the noise term (c) is set to 2, which produces strong artifacts in coastal regions.
- Increasing the tolerance from 2.0 to 2.8 suppresses coastal artifacts.
- This change has been applied in AMSR3 L1R Version 1.0.

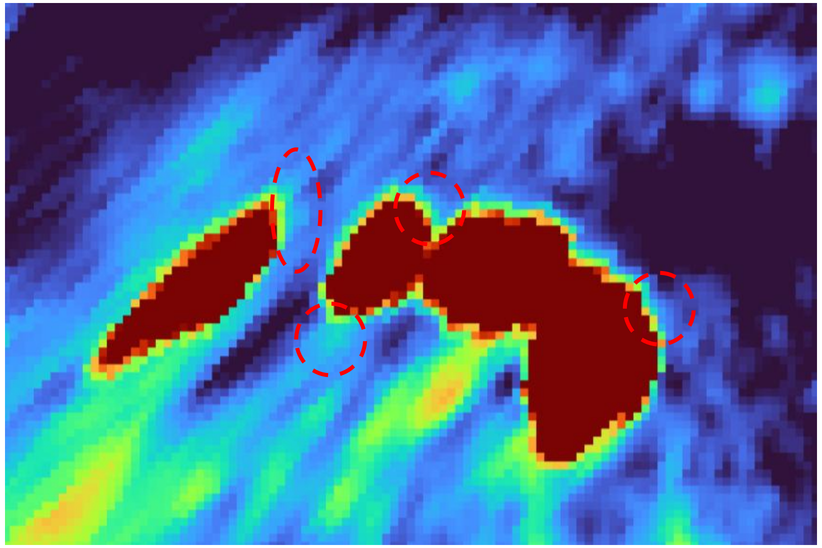
AMSR3 L1B 6V



L1R Ver. 00B (Σ|a|<2)



L1R Ver. 01A (Σ|a|<2.8)



Level 1R: Brightness Temperature

- We calculated the root sum square of the filter coefficients as a noise factor for all frequency pairs.
- The noise factor is significantly reduced for most pairs, including the repositioning case (i.e., target: 6 GHz, source: 6 GHz).

AMSR3 L1R Noise Factor

Target↓	Source →	6	7	10.3	10.7	18	23	36	89A	89B	165	183±3	183±7
6		0.38	0.38	0.19	0.19	0.15	0.15	0.14	0.07	0.07	–	–	–
10		–	–	0.55	0.55	0.25	0.27	0.22	0.11	0.11	–	–	–
23		–	–	–	–	0.62	0.95	0.37	0.17	0.17	0.33	0.33	0.33
36		–	–	–	–	–	–	0.99	0.34	0.3	0.69	0.65	0.65

Inter-sensor calibration of AMSR3 brightness temperature

- Because validation of brightness temperatures against an absolute truth is inherently difficult, calibration performance is assessed through intercomparison with brightness temperatures observed by other satellite-borne sensors with similar specifications.

- For AMSR3 brightness temperatures, intercalibration with AMSR2 is conducted to ensure continuity of data quality within the AMSR series (AMSR, AMSR-E, AMSR2, and AMSR3). In addition, intercomparison with the GPM Microwave Imager (GMI) is performed, as GMI provides highly accurate and stable calibration and is widely used as a reference standard for microwave radiometers in projects such as the Global Precipitation Measurement (GPM) mission.

- The intercalibration results presented here correspond to AMSR3 L1 Version 00C. Intercalibration for L1 Version 01A will be conducted in future work. However, because no modifications affecting brightness temperatures were introduced between Version 00C and Version 01A, the impact on the intercalibration results is expected to be minimal.

Data and Models

- Duration
  - October 1, 2025 – February 28, 2026

- Brightness temperature (Tb) products for intercalibration
  - AMSR3: Level 1B (Version 00C)
  - AMSR2: Level 1B (Version 220)
  - GMI: Level 1B (Version 07B)

- Radiative transfer model (RTM)
  - RTTOV 13.2 distributed by NWP SAF.
  - Used surface emissivity model/atlas built-in RTTOV 13.2: FASTEM6 for ocean and TELSEM2 for land surface emissivity.

- Ancillary data (Global analysis data)
  - Japan Meteorological Agency (JMA)'s global analysis data (GANAL) and merged satellite SST (MGDSST) were used as atmospheric profile and SST, respectively.

- Calibration method : Double Difference (DD)

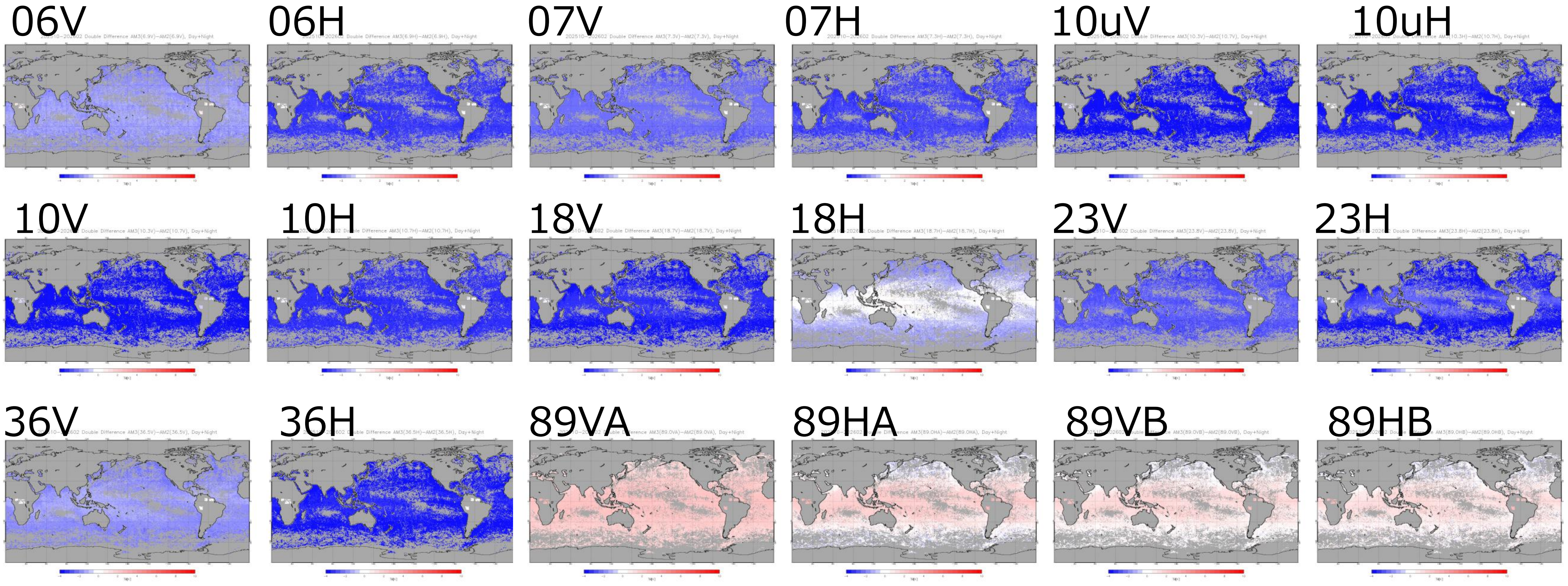
$$DD_{AMSR3\ vs\ AMSR2} = (TB_{AM3obs} - TB_{AM3sim}) - (TB_{AMSR2obs} - TB_{AMSR2sim})$$

$$DD_{AMSR3\ vs\ GMI} = (TB_{AM3obs} - TB_{AM3sim}) - (TB_{GMIobs} - TB_{GMIsim})$$

Intercalibration with AMSR2

Frequency dependency of DD (AMSR3 vs AMSR2)

For Ascending and Descending

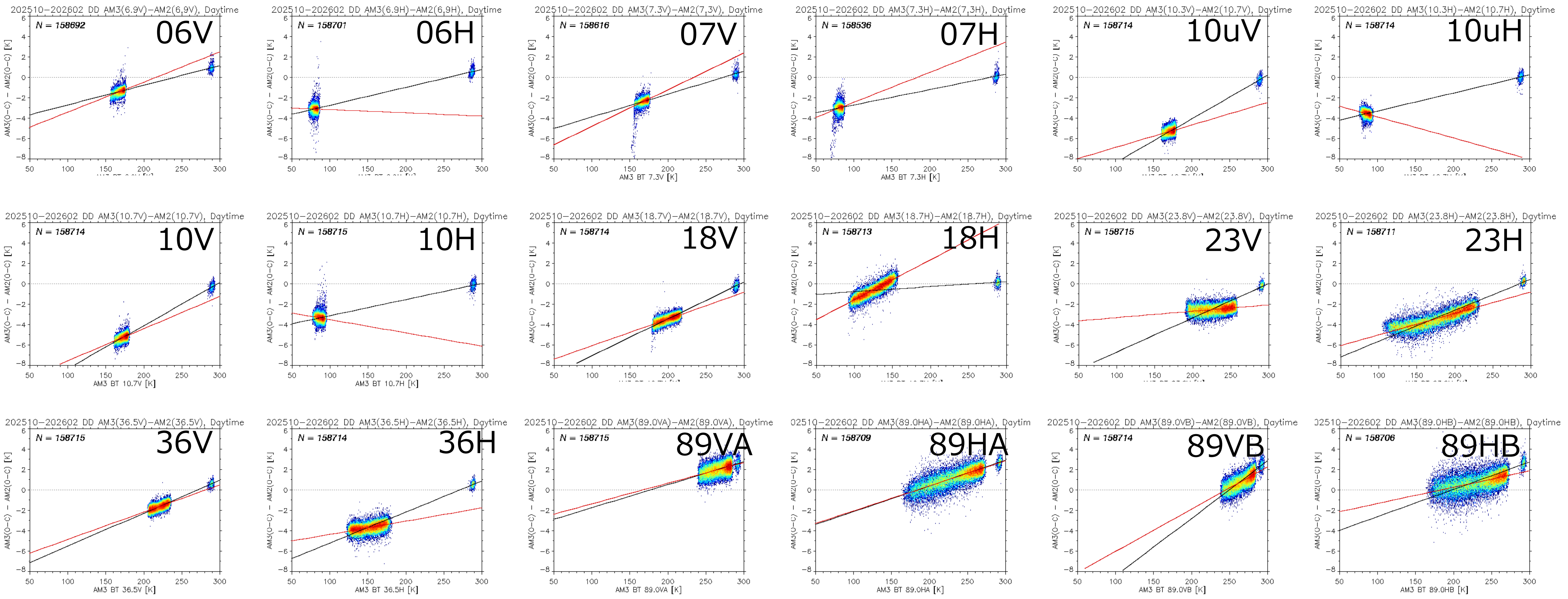


At lower frequencies (≤36 GHz), AMSR3 exhibits a pronounced negative double difference relative to AMSR2, whereas 89 GHz shows a slight positive double difference.

Intercomparison Results AMSR3 vs AMSR2

For Ascending data

Linear Fit —: Ocean and Land, —: Ocean only



Interconversion Coefficients AMSR3 vs AMSR2

For Ascending data

How to Convert AMSR3 TB
to AMSR2 Equivalent TB

$$Tb_{AMSR3toAMSR2}[K] = Tb_{AMSR3}[K] - \Delta Cal\ [K]$$

$$\Delta Cal\ [K] = Tb_{AMSR3}[K] \times slope + intercept$$

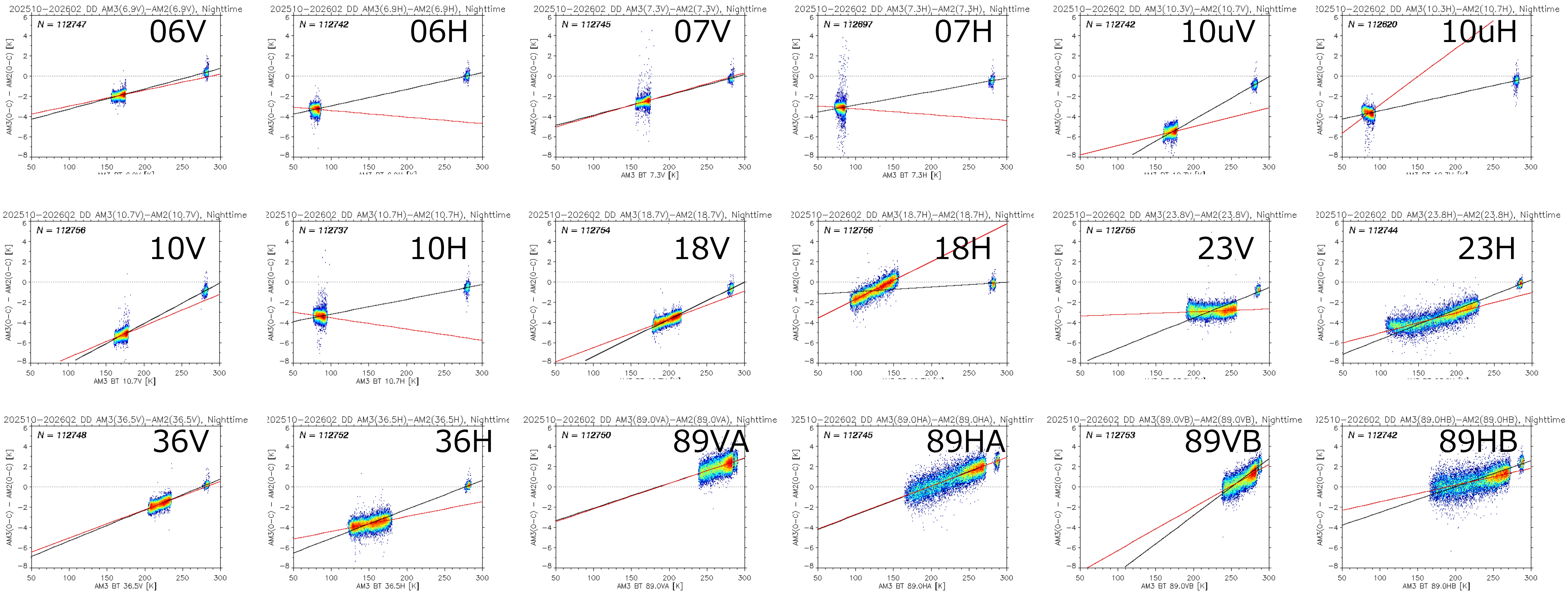
$* \ Tb_{AMSR3toAMSR2}$: Tb_{AMSR3} *Calibrated to* Tb_{AMSR2}

Freq.	①Ocean only		②Ocean and Land		Typical TB		①Ocean only		②Ocan and Land	
	Slope	intercept	Slope	intercept	TB@Ocean	TB@Land	ΔT@Ocean	ΔT@Land	ΔT@Ocean	ΔT@Land
6V	0.02948	−6.33794	0.01931	−4.61913	169.37	289.07	−1.35	2.18	−1.35	0.96
6H	−0.00318	−2.80966	0.01760	−4.48198	80.45	287.04	−3.07	−3.72	−3.07	0.57
7V	0.03600	−8.39921	0.02247	−6.11563	169.03	289.77	−2.31	2.03	−2.32	0.39
7H	0.02947	−5.37545	0.01512	−4.20642	81.58	287.64	−2.97	3.10	−2.97	0.14
10.25V	0.02203	−9.06047	0.04301	−12.67108	172.26	289.63	−5.27	−2.68	−5.26	−0.21
10.25H	−0.02085	−1.75399	0.01773	−5.06046	85.76	288.48	−3.54	−7.77	−3.54	0.05
10.65V	0.03149	−10.67575	0.04228	−12.53897	172.84	289.55	−5.23	−1.56	−5.23	−0.30
10.65H	−0.01303	−2.18863	0.01586	−4.69163	86.69	288.33	−3.32	−5.94	−3.32	−0.12
18V	0.02620	−8.67117	0.03612	−10.63766	199.27	289.62	−3.45	−1.08	−3.44	−0.18
18H	0.03916	−5.45852	0.00506	−1.26348	124.68	288.68	−0.58	5.85	−0.63	0.20
23V	0.00625	−3.91889	0.03362	−10.04324	229.10	290.74	−2.49	−2.10	−2.34	−0.27
23H	0.02110	−7.10063	0.03046	−8.66868	176.91	290.32	−3.37	−0.98	−3.28	0.17
36V	0.02676	−7.51330	0.03226	−8.71759	219.96	288.88	−1.63	0.22	−1.62	0.60
36H	0.01299	−5.63930	0.03047	−8.24123	150.44	288.28	−3.69	−1.89	−3.66	0.54
89VA	0.02028	−3.37321	0.02261	−3.98606	268.27	292.03	2.07	2.55	2.08	2.62
89HA	0.02464	−4.50532	0.02520	−4.62895	233.12	291.87	1.24	2.69	1.25	2.73
89VB	0.04155	−10.17671	0.05647	−14.06832	267.56	292.11	0.94	1.96	1.04	2.43
89HB	0.01599	−2.91234	0.02679	−5.27843	232.73	291.89	0.81	1.75	0.96	2.54

Intercomparison Results AMSR3 vs AMSR2

For Descending data

Linear Fit —: Ocean and Land, —: Ocean only



Interconversion Coefficients AMSR3 vs AMSR2

For Descending data

How to Convert AMSR3 TB
to AMSR2 Equivalent TB

$$Tb_{AMSR3toAMSR2}[K] = Tb_{AMSR3}[K] - \Delta Cal\ [K]$$

$$\Delta Cal\ [K] = Tb_{AMSR3}[K] \times slope + intercept$$

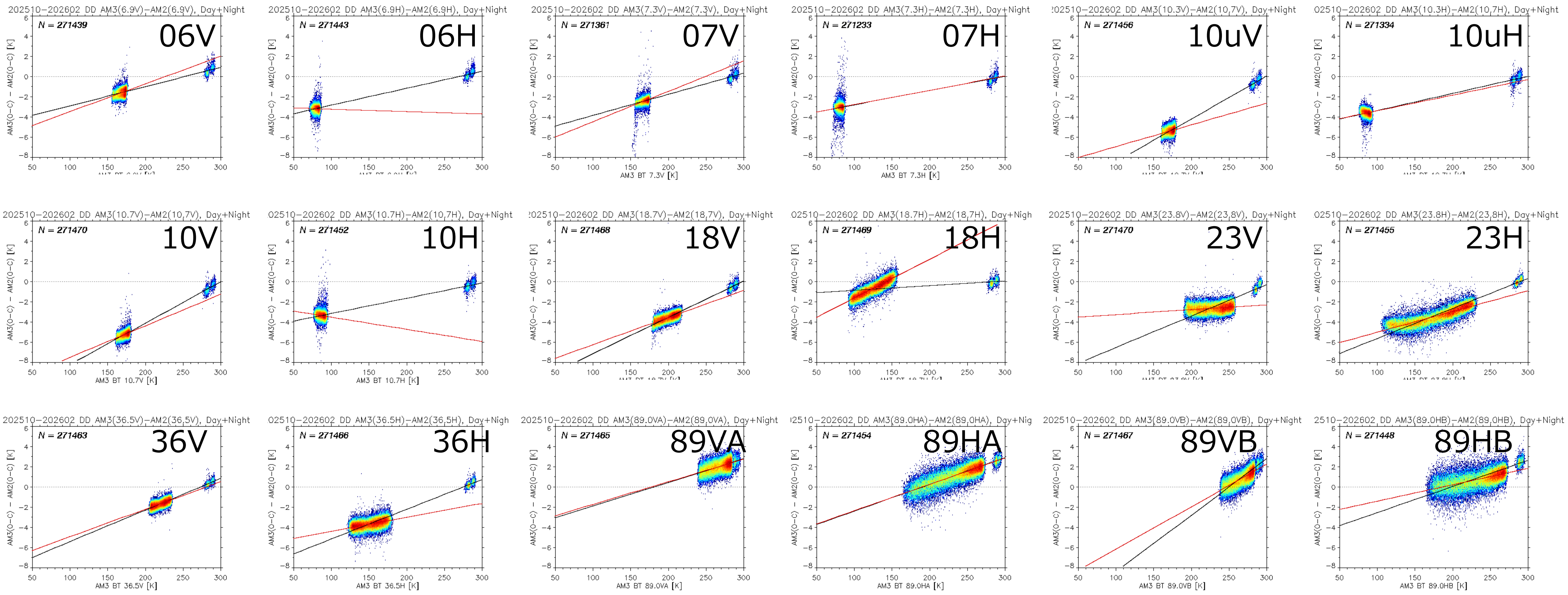
$* \ Tb_{AMSR3toAMSR2}\ :\ Tb_{AMSR3}\ Calibrated\ to\ Tb_{AMSR2}$

Freq.	①Ocean only		②Ocean and Land		Typical TB		①Ocean only		②Ocan and Land	
	Slope	intercept	Slope	intercept	TB@Ocean	TB@Land	ΔT@Ocean	ΔT@Land	ΔT@Ocean	ΔT@Land
6V	0.01577	−4.52184	0.02005	−5.24246	168.60	281.88	−1.86	−0.08	−1.86	0.41
6H	−0.00647	−2.73100	0.01640	−4.55940	79.99	279.94	−3.25	−4.54	−3.25	0.03
7V	0.02133	−6.06875	0.02008	−5.85827	168.69	282.43	−2.47	−0.04	−2.47	−0.19
7H	−0.00574	−2.63507	0.01338	−4.18855	81.26	280.49	−3.10	−4.25	−3.10	−0.43
10.25V	0.01855	−8.69100	0.04261	−12.82014	171.81	281.66	−5.50	−3.47	−5.50	−0.82
10.25H	0.05558	−8.39389	0.01656	−5.06235	85.48	280.70	−3.64	7.21	−3.65	−0.41
10.65V	0.03121	−10.56221	0.03982	−12.04858	172.70	281.66	−5.17	−1.77	−5.17	−0.83
10.65H	−0.01108	−2.39796	0.01457	−4.61385	86.48	280.62	−3.36	−5.51	−3.35	−0.53
18V	0.02782	−9.24717	0.03667	−10.99784	199.26	282.48	−3.70	−1.39	−3.69	−0.64
18H	0.03731	−5.40965	0.00462	−1.38822	124.92	281.66	−0.75	5.10	−0.81	−0.09
23V	0.00280	−3.46432	0.02996	−9.51393	229.29	285.13	−2.82	−2.67	−2.64	−0.97
23H	0.01990	−6.98463	0.02938	−8.56324	177.51	284.77	−3.45	−1.32	−3.35	−0.20
36V	0.02790	−7.79923	0.03051	−8.37033	220.24	282.27	−1.65	0.08	−1.65	0.24
36H	0.01476	−5.85717	0.02864	−7.92828	151.02	281.77	−3.63	−1.70	−3.60	0.14
89VA	0.02512	−4.66971	0.02466	−4.55091	268.09	287.83	2.06	2.56	2.06	2.55
89HA	0.02816	−5.53354	0.02851	−5.60959	233.14	287.67	1.03	2.57	1.04	2.59
89VB	0.04244	−10.51061	0.05591	−13.99343	267.40	287.82	0.84	1.70	0.96	2.10
89HB	0.01652	−3.11319	0.02538	−5.03331	232.96	287.66	0.74	1.64	0.88	2.27

Intercomparison Results AMSR3 vs AMSR2

For Ascending and Descending data

Linear Fit —: Ocean and Land, —: Ocean only



Interconversion Coefficients AMSR3 vs AMSR2

For Ascending and Descending data

How to Convert AMSR3 TB
to AMSR2 Equivalent TB

$$Tb_{AMSR3toAMSR2}[K] = Tb_{AMSR3}[K] - \Delta Cal\ [K]$$

$$\Delta Cal\ [K] = Tb_{AMSR3}[K] \times slope + intercept$$

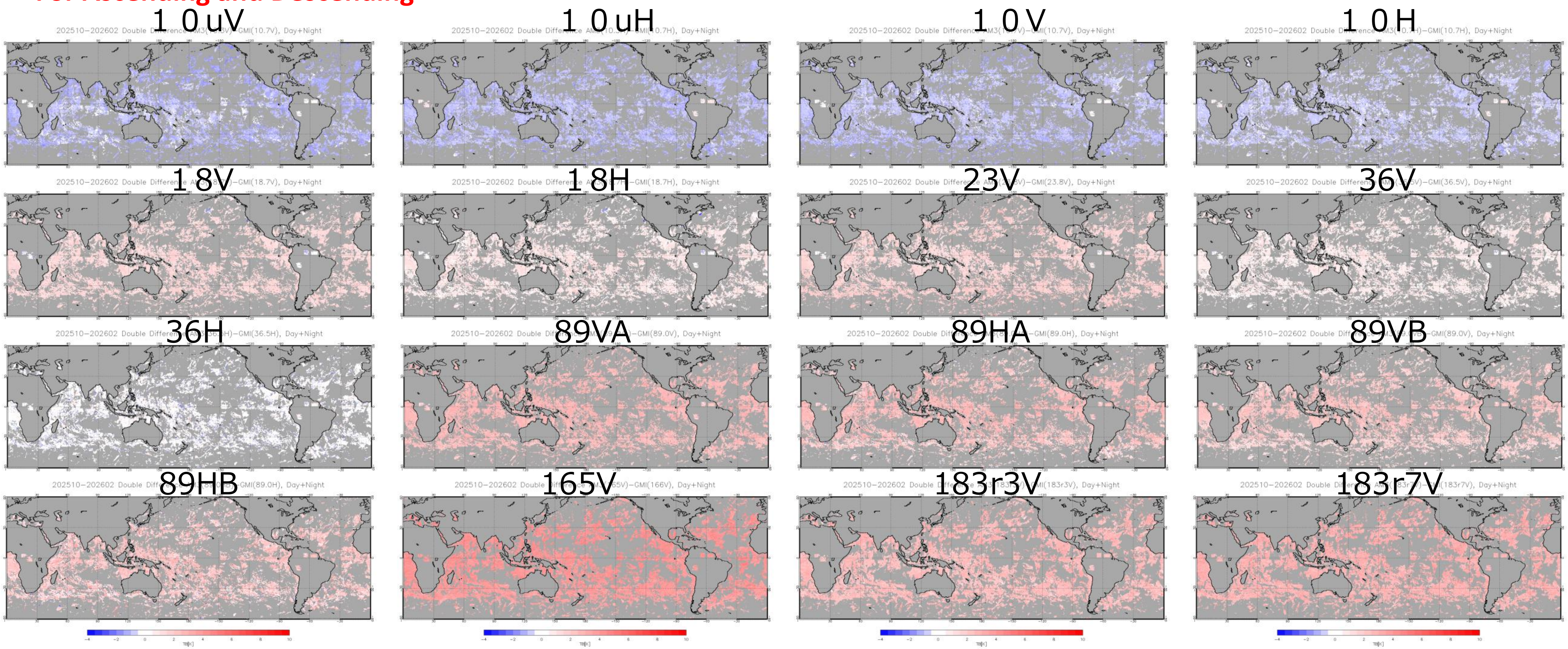
$* \ Tb_{AMSR3toAMSR2}$ ： Tb_{AMSR3} $Calibrated\ to\ Tb_{AMSR2}$

Freq.	①Ocean only		②Ocean and Land		Typical TB		①Ocean only		②Ocan and Land	
	Slope	intercept	Slope	intercept	TB@Ocean	TB@Land	ΔT@Ocean	ΔT@Land	ΔT@Ocean	ΔT@Land
6V	0.02751	−6.20796	0.01908	−4.79071	169.05	284.81	−1.56	1.63	−1.57	0.64
6H	−0.00235	−2.95229	0.01678	−4.49045	80.26	282.83	−3.14	−3.62	−3.14	0.26
7V	0.03006	−7.45598	0.02097	−5.92958	168.89	285.42	−2.38	1.12	−2.39	0.06
7H	0.01421	−4.18249	0.01403	−4.17246	81.45	283.40	−3.02	−0.15	−3.03	−0.20
10.25V	0.02157	−9.07482	0.04251	−12.67933	172.07	284.90	−5.36	−2.93	−5.36	−0.57
10.25H	0.01549	−4.90946	0.01698	−5.04114	85.65	283.87	−3.58	−0.51	−3.59	−0.22
10.65V	0.03128	−10.61263	0.04104	−12.30028	172.79	284.87	−5.21	−1.70	−5.21	−0.61
10.65H	−0.01202	−2.29261	0.01510	−4.64256	86.60	283.75	−3.33	−5.70	−3.33	−0.36
18V	0.02690	−8.91388	0.03600	−10.72088	199.27	285.39	−3.55	−1.24	−3.55	−0.45
18H	0.03833	−5.42903	0.00463	−1.28740	124.78	284.52	−0.65	5.48	−0.71	0.03
23V	0.00472	−3.70572	0.03115	−9.61884	229.18	287.41	−2.62	−2.35	−2.48	−0.67
23H	0.02057	−7.04617	0.02978	−8.58779	177.15	287.03	−3.40	−1.14	−3.31	−0.04
36V	0.02721	−7.62540	0.03127	−8.51987	220.07	284.96	−1.64	0.13	−1.64	0.39
36H	0.01377	−5.73743	0.02949	−8.08162	150.68	284.42	−3.66	−1.82	−3.64	0.31
89VA	0.02238	−3.93667	0.02336	−4.19353	268.20	289.54	2.07	2.54	2.07	2.57
89HA	0.02617	−4.94693	0.02650	−5.02024	233.13	289.38	1.15	2.63	1.16	2.65
89VB	0.04196	−10.32512	0.05594	−13.96033	267.50	289.57	0.90	1.82	1.00	2.24
89HB	0.01621	−2.99640	0.02589	−5.10795	232.83	289.38	0.78	1.70	0.92	2.38

Intercalibration with GMI

Frequency dependency of DD (AMSR3 vs GMI)

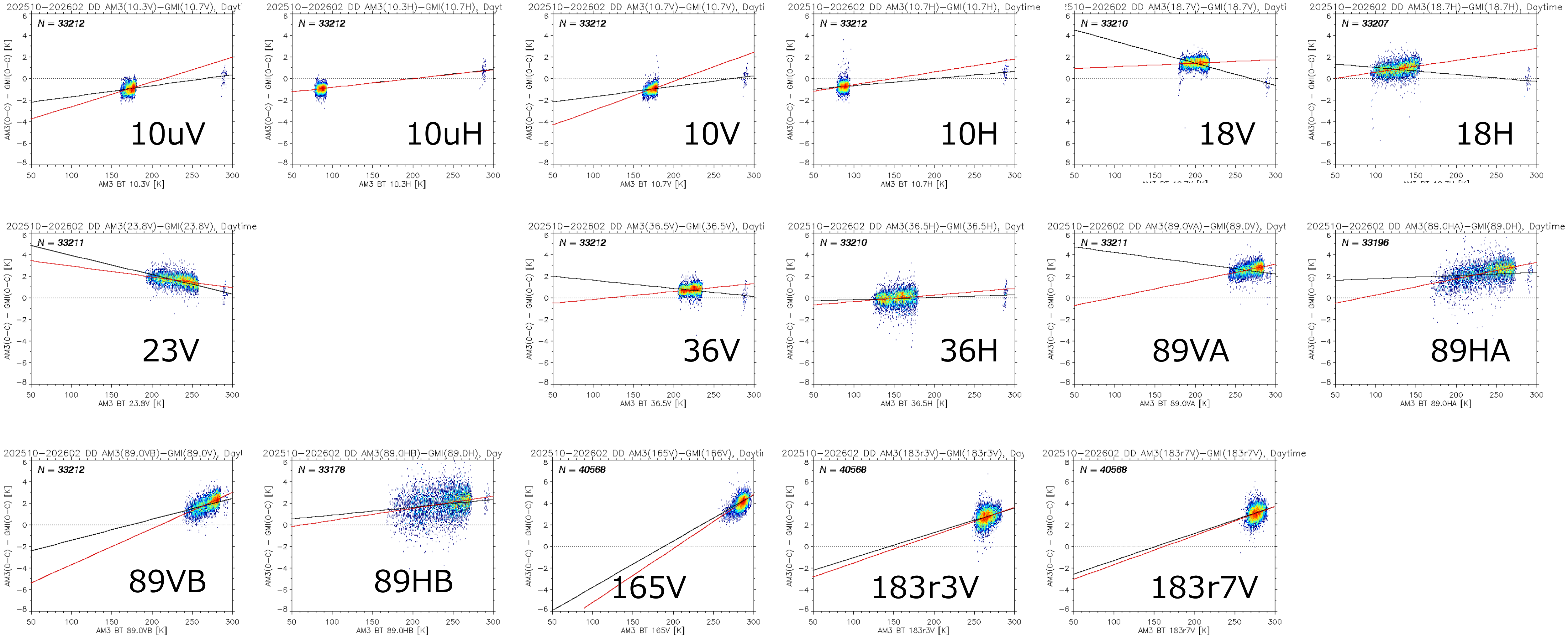
For Ascending and Descending



Below 10 GHz, AMSR3 exhibits a slight negative double difference relative to GMI, whereas above 18 GHz it shows a positive double difference, although the difference is smaller than that between AMSR2 and AMSR3.

Intercomparison Results AMSR3 vs GMI

For Ascending data



Interconversion Coefficients AMSR3 vs GMI

How to Convert AMSR3 TB
to GMI Equivalent TB

$$Tb_{AMSR3toGMI}[K] = Tb_{AMSR3}[K] - \Delta Cal\ [K]$$

$$\Delta Cal\ [K] = Tb_{AMSR3}[K] \times slope + intercept$$

$*\ Tb_{AMSR3toGMI}\ :\ Tb_{AMSR3}\ Calibrated\ to\ Tb_{GMI}$

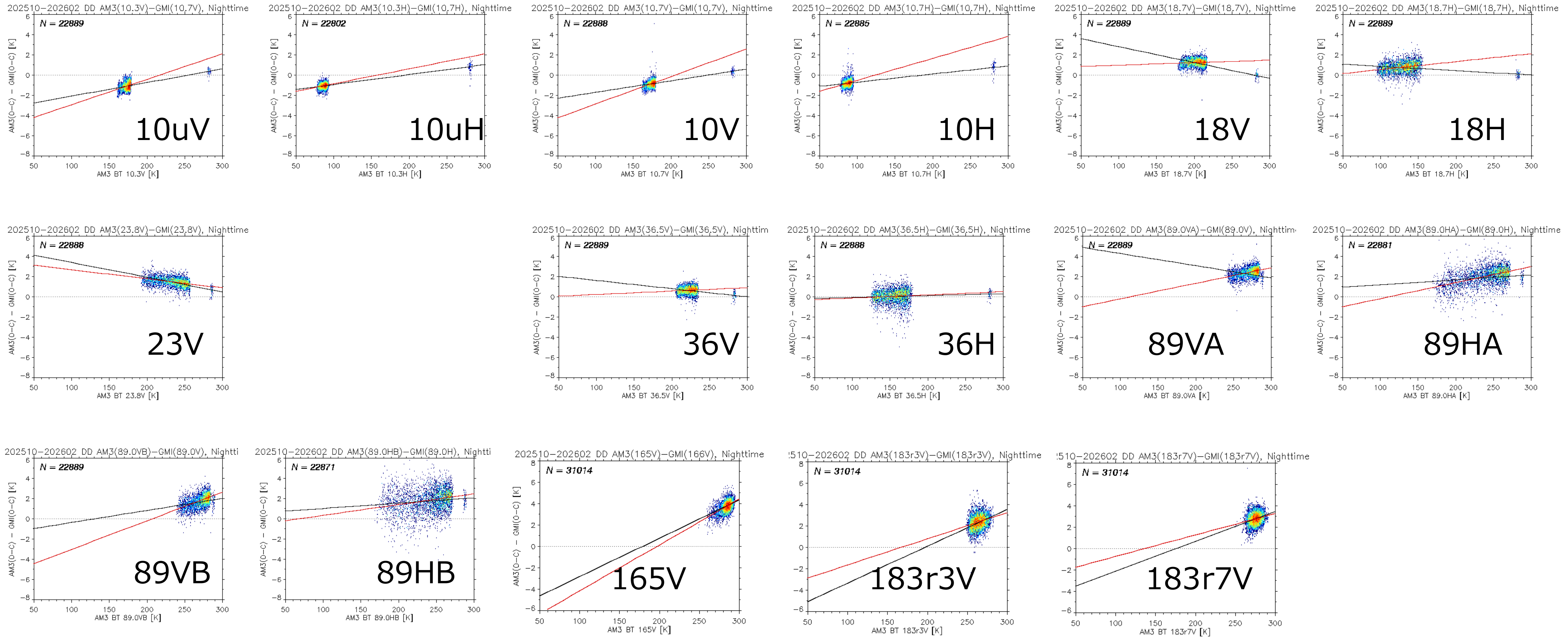
For Ascending data

Feq.	①Ocean only		②Ocean and Land		Typical TB		①Ocean only		②Ocan and Land	
	Slope	intercept	Slope	intercept	TB@Ocean	TB@Land	ΔT@Ocean	ΔT@Land	ΔT@Ocean	ΔT@Land
10.25V	0.02283	−4.86537	0.01018	−2.67923	173.18	289.34	−0.91	1.74	−0.92	0.27
10.25H	0.00820	−1.62111	0.00832	−1.63233	86.23	288.20	−0.91	0.74	−0.92	0.76
10.65V	0.02701	−5.63735	0.00970	−2.63563	173.70	289.26	−0.95	2.18	−0.95	0.17
10.65H	0.01190	−1.74847	0.00653	−1.28263	87.15	288.04	−0.71	1.68	−0.71	0.60
18V	0.00332	0.79096	−0.02058	5.56285	200.86	289.23	1.46	1.75	1.43	−0.39
18H	0.01112	−0.51009	−0.00650	1.69720	126.81	288.26	0.90	2.70	0.87	−0.18
23V	−0.01000	3.96703	−0.01792	5.76129	231.81	290.29	1.65	1.06	1.61	0.56
36V	0.00730	−0.84670	−0.00748	2.40070	221.17	288.52	0.77	1.26	0.75	0.24
36H	0.00609	−0.93874	0.00220	−0.35639	152.31	287.85	−0.01	0.82	−0.02	0.28
89VA	0.01530	−1.44763	−0.01012	5.25139	270.38	291.62	2.69	3.01	2.51	2.30
89HA	0.01510	−1.22018	0.00292	1.51483	237.69	291.41	2.37	3.18	2.21	2.36
89VB	0.03343	−7.01327	0.01947	−3.35425	269.69	291.71	2.00	2.74	1.90	2.33
89HB	0.01126	−0.69481	0.00723	0.20175	237.29	291.45	1.98	2.59	1.92	2.31
165V	0.05001	−10.17713	0.04293	−8.06823	284.92	283.07	4.07	3.98	4.16	4.08
183r3V	0.02571	−4.08429	0.02315	−3.34382	265.18	258.25	2.73	2.56	2.79	2.63
183r7V	0.02697	−4.37229	0.02508	−3.79300	276.39	270.60	3.08	2.93	3.14	2.99

Intercomparison Results AMSR3 vs GMI

For Descending data

Linear Fit —: Ocean and Land, —: Ocean only



Interconversion Coefficients AMSR3 vs GMI

How to Convert AMSR3 TB
to GMI Equivalent TB

$$Tb_{AMSR3toGMI}[K] = Tb_{AMSR3}[K] - \Delta Cal\ [K]$$

$$\Delta Cal\ [K] = Tb_{AMSR3}[K] \times slope + intercept$$

$*\ Tb_{AMSR3toGMI}\ :\ Tb_{AMSR3}\ Calibrated\ to\ Tb_{GMI}$

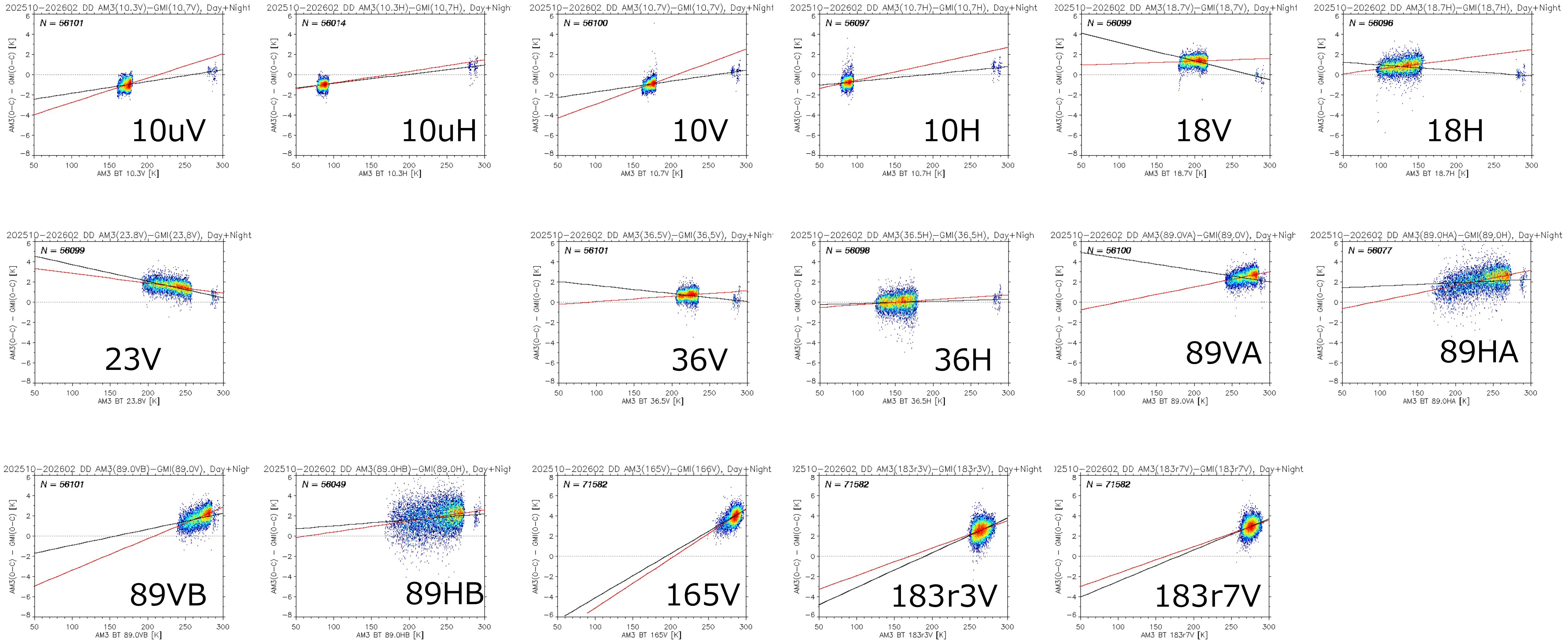
For Descending data

Feq.	①Ocean only		②Ocean and Land		Typical TB		①Ocean only		②Ocan and Land	
	Slope	intercept	Slope	intercept	TB@Ocean	TB@Land	ΔT@Ocean	ΔT@Land	ΔT@Ocean	ΔT@Land
10.25V	0.02516	−5.42857	0.01345	−3.40463	173.03	282.15	−1.08	1.67	−1.08	0.39
10.25H	0.01480	−2.31812	0.00982	−1.89005	86.07	281.08	−1.04	1.84	−1.05	0.87
10.65V	0.02718	−5.56247	0.01149	−2.83817	173.84	282.18	−0.84	2.11	−0.84	0.41
10.65H	0.02172	−2.67221	0.00808	−1.48528	87.07	281.02	−0.78	3.43	−0.78	0.78
18V	0.00250	0.76574	−0.01571	4.41328	201.53	283.05	1.27	1.47	1.25	−0.03
18H	0.00786	−0.21685	−0.00425	1.31458	128.06	282.11	0.79	2.00	0.77	0.12
23V	−0.00895	3.59950	−0.01457	4.87982	233.28	285.53	1.51	1.04	1.48	0.72
36V	0.00336	−0.07758	−0.00809	2.45046	221.99	282.75	0.67	0.87	0.65	0.16
36H	0.00316	−0.41238	0.00189	−0.21934	153.82	282.17	0.07	0.48	0.07	0.31
89VA	0.01547	−1.73729	−0.01207	5.51721	271.07	288.07	2.46	2.72	2.25	2.04
89HA	0.01586	−1.75236	0.00493	0.71376	239.74	287.91	2.05	2.81	1.90	2.13
89VB	0.02835	−5.84553	0.01195	−1.53902	270.44	288.02	1.82	2.32	1.69	1.90
89HB	0.01069	−0.71006	0.00522	0.52363	239.54	287.88	1.85	2.37	1.77	2.03
165V	0.04299	−8.44445	0.03595	−6.40190	283.85	281.89	3.76	3.67	3.80	3.73
183r3V	0.02450	−4.07836	0.03452	−6.77958	263.95	257.09	2.39	2.22	2.33	2.10
183r7V	0.02009	−2.72247	0.02788	−4.87912	275.26	269.71	2.81	2.70	2.79	2.64

Intercomparison Results AMSR3 vs GMI

For Ascending + Descending data

Linear Fit —: Ocean and Land, —: Ocean only



Interconversion Coefficients AMSR3 vs GMI

How to Convert AMSR3 TB
to GMI Equivalent TB

$$Tb_{AMSR3toGMI}[K] = Tb_{AMSR3}[K] - \ \Delta Cal\ [K]$$

$$\Delta Cal\ [K] = Tb_{AMSR3}[K] \times slope + intercept$$

$*\ Tb_{AMSR3toGMI}$: Tb_{AMSR3} $Calibrated\ to\ Tb_{GMI}$

For Ascending and Descending data

Feq.	①Ocean only		②Ocean and Land		Typical TB		①Ocean only		②Ocan and Land	
	Slope	intercept	Slope	intercept	TB@Ocean	TB@Land	ΔT@Ocean	ΔT@Land	ΔT@Ocean	ΔT@Land
10.25V	0.02408	−5.14785	0.01169	−3.00165	173.12	285.29	−0.98	1.72	−0.98	0.33
10.25H	0.01150	−1.95800	0.00903	−1.74434	86.16	284.18	−0.97	1.31	−0.97	0.82
10.65V	0.02727	−5.64036	0.01075	−2.76842	173.75	285.27	−0.90	2.14	−0.90	0.30
10.65H	0.01631	−2.16033	0.00731	−1.37607	87.12	284.08	−0.74	2.47	−0.74	0.70
18V	0.00266	0.84636	−0.01835	5.05203	201.13	285.74	1.38	1.61	1.36	−0.19
18H	0.00963	−0.37105	−0.00538	1.51955	127.32	284.79	0.86	2.37	0.83	−0.01
23V	−0.00973	3.85560	−0.01649	5.39117	232.40	287.60	1.59	1.06	1.56	0.65
36V	0.00540	−0.46793	−0.00794	2.46501	221.50	285.26	0.73	1.07	0.71	0.20
36H	0.00504	−0.74668	0.00213	−0.30856	152.92	284.65	0.02	0.69	0.02	0.30
89VA	0.01505	−1.47735	−0.01162	5.53226	270.66	289.62	2.59	2.88	2.39	2.17
89HA	0.01515	−1.37411	0.00329	1.29001	238.52	289.44	2.24	3.01	2.07	2.24
89VB	0.03110	−6.46844	0.01577	−2.46356	269.99	289.63	1.93	2.54	1.79	2.10
89HB	0.01090	−0.67205	0.00594	0.43629	238.20	289.44	1.93	2.48	1.85	2.15
165V	0.04904	−10.01284	0.04389	−8.49586	284.46	282.43	3.94	3.84	3.99	3.90
183r3V	0.02722	−4.61743	0.03431	−6.49872	264.65	257.61	2.59	2.39	2.58	2.34
183r7V	0.02627	−4.28550	0.03097	−5.56499	275.90	270.11	2.96	2.81	2.98	2.80