Release Note

GOSAT-2 TANSO-FTS-2 SWIR L2
Chlorophyll Fluorescence and Proxy-method Product

Product version 01.07

December 2021

National Institute for Environmental Studies
GOSAT-2 Project

Revision History

Version	Revised on	Page	Description
00	Oct. 2021	-	-
01	Dec. 2021	p.1	Added important information
		p.2	Added that released to General users
			Updated Table 4-1 for version 01.04

1 Introduction

The purpose of this document is to provide considerations for the Greenhouse gases Observing SATellite-2 (hereinafter referred to as "GOSAT-2") products generated by the National Institute for Environmental Studies, Japan (hereinafter referred to as "NIES").

Table 1-1 shows the product and its version described in this document.

Table 1-1 Product and version explained in the document

Product name	Product version
GOSAT-2 TANSO-FTS-2 SWIR L2 Chlorophyll Fluorescence and Proxy-method Product	01.07

2 Difference from the previous version

Difference between the previous version (01.04) and this version (01.07) is shown below.

2.1 Change of algorithm

There is no change in the processing algorithm for generating this product.

2.2 Change of input data

The change of input data is shown below.

(1) TANSO-FTS-2 L1B Product as the input product was updated. For more information, refer to the release note of TANSO-FTS-2 L1B Product (GST-200007).

2.3 Change of product format

There is no change in the product file format.

3 Important information

The important information for this product version is shown below.

(1) The L1 product version corresponding to this product version is shown below.
  ·   TANSO-FTS-2 L1B Product: 200.200
  Note: The spectra before sensitivity correction stored under SoundingData/RawSpectrum is used in the retrieval processing of this product. The instrument characteristic information used in retrieval processing of products of this version is the same those used for the conversion of the sensitivity-corrected spectra stored under SoundingData/Radiance of TANSO-FTS-2 L1B V102.102. Therefore, this version (01.07) is not essentially different from the previous version (01.04).

01

(2) In this version, in retrieval processing, ground surface was treated as Lambertian surface in all cases.

(3) In this version, in retrieval processing, the following TANSO-FTS-2 Instrument characteristic information was used.
  ·   Instrument line shape function (ILSF)   date version: May 25, 2020
  ·   radiance conversion coefficient (Rad_CNV)   date version: May 25, 2020
  ·   time-dependent radiance correction coefficient (RAD_Time_Wave_Deg)
                                                                            date version: May 25, 2020
  ·   complex refractive index of the scanner mirror (SCANNER_REFRACTION)
                                                                            date version: Oct. 10, 2018

(4) The following datasets store invalid value.
- CloudInformation/FTS-2_TIR
- RetrievalResult_*/wind_speed_*
- RetrievalResult_B1_*/fluorescence_*

(5) Only each data of "Good" quality flag should be used, although XCH4_proxy_quality_flag, XCO_proxy_quality_flag under GasColumn_Proxy and SIF_quality_flag under SolarInducedFluorescence store four-level quality flags: "Good", "Fair", "Poor", and "NG".

(6) The satellite position (ECR (WGS84)) and satellite velocity (ECR(WGS84)) stored in satPos_ECR and satVel_ECR under SatelliteGeometry of TANSO-FTS-2 L1B Product are found to change discontinuously. Note that this event may have some influence on retrieval results of products of this version. The soundingUniqueID that seem to be influenced by this event are as follows.
- 20200726_037_0476 - 20200726_037_0484 (9 soundings)
- 20201120_004_0641 - 20201120_004_0646 (6 soundings)
- 20210218_040_0904 - 20210218_040_0912 (9 soundings)

4 Version-upgrade history

Table 4-1 shows the version-upgrade history of this product.

Table 4-1 Version-upgrade history

Product version	Date	Remarks	
01.02	Dec. 2019	Released to RA users	
01.03	Apr. 2020	Changed algorithm Changed product format Released to RA users	
	Nov. 2020	Released to General users	
01.04	Jul. 2021	Changed algorithm Changed input data Changed important information Released to RA users	
	Dec. 2021	Released to General users	01
01.07	Oct. 2021	Changed input data Changed important information Released to RA users	
	Dec. 2021	Released to General users	01