

Release of GREAT Cycle 3 Calibrated Data Product

From: Rolf Güsten (GREAT Principal Investigator)
To: Erick Young, General Investigator of Cycle 3 proposal # DDT 75_0015
Cc: Hans Zinnecker, Göran Sandell, Ed Chambers
Date: 19.02.2016
Ref.: Release of GREAT Cycle 3 data

Dear Erick –

Please find attached the validated, calibrated GREAT science data that was obtained for your project DDT 75_0015 during SOFIA's cycle #3 flights in December 2015. With this distribution the data will also be ingested into the SOFIA data archive.

The data were acquired on Dec 11 (SOFIA flight #266), the observing scripts are described in the GREAT flight dossier GP9700066. The large area to be studied was divided into 4 slightly overlapping sub-fields, each field was covered several times (scanning in orthogonal directions), then repeating the cycle with the array orientation rotated by +60 deg. The final map reveals a very uniform noise distribution (~2 K for a spectral resolution of 0.19 km/s). Data was taken fast “on-the-fly” (dump times 0.3-0.4 sec) on a 6" grid (the half-power beam width of upGREAT at the [CII] frequency is 15.1"). The on-sky reference position was at offset -733,+27.5" (RA,Dec) to the nominal center position of the map.

The data has been processed with the latest version of the GREAT calibrator. The data package (attached as .tar file) does contain

- an overview, providing basic information about your project
- data product level 3, containing
 - (a) the calibrated spectra in standard CLASS format, and
 - (b) the final data product (map) as “lmv”-data cube.
- the *.class script used in CLASS to process the data.
- a read-me file with details of the data reduction
- a brief log of the observations.

The “project_ID.great” file contains the science data of your target (identified by source name), but also the receiver (Trec) and system (Tsys) temperatures across the IF band. You will receive data processed by the 4GFFT spectrometers.

All spectra have been calibrated for the transmission in the signal band. Spectra of Tsky-THot (observed and modeled) shall enable you to assess the quality of the fit to the atmospheric transmission [see Guan et al. (2012, A&A 542, L4) for details].

If you have questions about the data, the way they were processed or the observations proper, feel free to contact D. Riquelme (riquelme@mpifr-bonn.mpg.de), your data processing liaison.

With best wishes,

Rolf Güsten (for the GREAT consortium)