A Big Earth Data Platform for Three Poles

**HiWATER: Dataset of airborne microwave radiometers (L bands) mission in the upper reaches of the Heihe River Basin on Aug. 1, 2012**

1、Description

The dataset of airborne Polarimetric L-band Multibeam Radiometers (PLMR) was acquired on 1 August, 2012, located in the upper reaches of the Heihe River Basin. The aircraft took off at 8:30 am (UTC+8) from Zhangye airport and landed at 12:30 pm, with the flight time of 4 hours. The flight was performed in the altitude of about 1000 m and at the speed of about 220-250 km during the observation, corresponding to an expected ground resolution of about 300 m.
The PLMR instrument flown on a small aircraft operates at 1.413 GHz (L-band), with both H- and V-polarizations at incidence angles of ±7.5°, ±21.5° and ±38.5°. PLMR ‘warm’ and ‘cold’ calibrations were performed before and after each flight. The processed PLMR data include 2 DAT files (v-pol and h-pol separately) and 1 KMZ file for each flying day. The DAT file contains all the TB values together with their corresponding beam ID, incidence angle, location, time stamp (in UTC) and other flight attitude information as per headings. The KMZ file shows the gridded 1-km TB values corrected to 38.5 degrees together with flight lines. Cautions should be taken when using these data, as the RFI contaminations are often higher than expected at v-polarization.

2、Keywords

Theme：Remote Sensing Technology,Airborne remote sensing,Microwave radiometer
Discipline：Remote Sensing Technology
Places：Heihe River Basin, the cold region hydrology experimental area in the upper reaches
Time：2012, 2012-08-01

3、Data details

1.Scale：0

2.Projection：4326

3.Filesize：36.8MB

4.Data format：文本

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.9667 | - |
| west：98.8285 | - | east：100.9819 |
| - | south：37.9092 | - |

5、Time frame:2019-05-24 10:47:35.190288+00:00--2019-05-24 10:47:35.190293+00:00

6、Reference method

References to data:

LI Xin. HiWATER: Dataset of airborne microwave radiometers (L bands) mission in the upper reaches of the Heihe River Basin on Aug. 1, 2012. A Big Earth Data Platform for Three Poles, doi:10.3972/hiwater.020.2013.db2018

References to articles:

Che, T., Li, X., Liu, S., Li, H., Xu, Z., Tan, J., Zhang, Y., Ren, Z., Xiao, L., Deng, J., Jin, R., Ma, M., Wang, J., & Yang, X. (2019). Integrated hydrometeorological, snow and frozen-ground observations in the alpine region of the Heihe River Basin, China. Earth System Science Data, 11, 1483-1499

7、Supporting project information

"Heihe Watershed Allied Telemetry Experimental Research (HiWATER)

8、Data resource provider

name: LI Xin
unit:
email: xinli@itpcas.ac.cn