A Big Earth Data Platform for Three Poles

**WATER: Dataset of airborne microwave radiometers (L&K bands) mission in the Linze-Biandukou flight zone on May 25 2008**

1、Description

This dataset was acquired on May 25, 2008 by the L&K-band airborne microwave radiometer at the Linze-Biandukou flight area.The L-band frequency is 1.4 GHz, the rear view is 35 degrees, and the dual-polarization (H and V) information is obtained; the K-band frequency is 18.7 GHz, with zenith angle observation, and there is no polarization information. The plane took off from Zhangye Airport at 9:51 (Beijing time, the same below) and landed at 15:01. The observation from 10:10 to 12:30 was in the Linze area, the flight altitude is about 1800m, and the flight speed is about 250km/hr. The plane flew low over Linze Reservoir from 12:31 to 12:38. The plane works in the Bianduko aerophotography region from13:13 to 14:35, the flight altitude is about 3000m, and the flight speed is about 250km/hr.
The original data is divided into two parts: microwave radiometer data and GPS data. The L and K bands of microwave radiometer are all from non-imaging observation, the digital values obtained from instantaneous observation are recorded by text files, the longitude and latitude of flight and the attitude parameters of aircraft are recorded by GPS data. At the same time, through the respective clock records of the microwave radiometer and GPS, the microwave observation can be linked with the GPS record, and the microwave observation can be matched with the geographical coordinate information. Due to the relatively low resolution of the microwave radiometer, the leeway, welter and pitching of the aircraft are generally neglected in data processing. According to the target of use and relative flight altitude (H), after calibration and coordinate matching, the observation information can be rasterized. The resolution (x) of the L and K bands can be considered consistent with the observation footprint. The reference resolution is: L band, x = 0.3H; K band, x = 0.24H. After the above steps, products that can be directly used by users can be obtained.

2、Keywords

Theme：Remote Sensing Technology,Airborne remote sensing,Microwave radiometer
Discipline：Remote Sensing Technology
Places：Heihe River Basin, Arid Region Hydrology in the Middle Reaches, Closed observation area of Linze station, closed observation area of Biandoukou
Time：2008-05-25

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：16.0MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.4 | - |
| west：100.05 | - | east：101.1 |
| - | south：38.15 | - |

5、Time frame:2008-06-07 09:50:00+00:00--2008-06-07 15:01:00+00:00

6、Reference method

References to data:

CHE Tao, JIN Jinan. WATER: Dataset of airborne microwave radiometers (L&K bands) mission in the Linze-Biandukou flight zone on May 25 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0214.db2010

References to articles:

7、Supporting project information

The CAS (Chinese Academy of Sciences) Action Plan for West Development Project
National Program on Key Basic Research Project (973 Program

8、Data resource provider

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