A Big Earth Data Platform for Three Poles

**WATER: Dataset of airborne microwave radiometers (K&Ka bands) mission in the Binggou watershed flight zone on Mar. 30, 2008**

1、Description

The dataset of airborne microwave radiometers (K&Ka) mission was obtained in the Binggou watershed flight zone on Mar. 30, 2008.
 The frequency of K bands was 18.7 GHz at the nadir view angle without polarization; and the frequency of Ka band was 36.0 GHz with the scanning angle range ±12°. The plane took off at Zhangye airport at 12:43 (BJT) and landed at 15:44, along the scheduled 11 lines at the altitude about 5000m and speed about 220-250km/hr.
 The raw data include microwave radiometer (L&K) data and GPS data; K band was instantaneous non-imaging observation recorded in text, which will be converted into brightness temperatures according to the calibration coefficients (filed with raw data together) and Ka band was recorded hex text, and the latter are aircraft longitude, latitude and attitude. Moreover, based on the respective real-time clock log, observations by the microwave radiometer and GPS can be integrated to offer coordinates matching for the former. Yaw, flip, and pitch motions of aircraft were ignored due to the low resolution of microwave radiometer observations. Observation information can also be rasterized, as required, after calibration and coordinates matching. K band resolution (x) and footprint can be approximately estimated as x=0.3H (H is relative flight height); for Ka the resolution was 39m.

2、Keywords

Theme：Remote Sensing Technology,Microwave radiometer
Discipline：Remote Sensing Technology
Places：Heihe River Basin, the cold region hydrology experimental area in the upper reaches, ice-channel watershed encryption observation area
Time：

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：7150.6MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.15 | - |
| west：100.15 | - | east：100.3 |
| - | south：38.0 | - |

5、Time frame:2008-04-10 04:30:00+00:00--2008-04-10 08:45:00+00:00

6、Reference method

References to data:

CHE Tao. WATER: Dataset of airborne microwave radiometers (K&Ka bands) mission in the Binggou watershed flight zone on Mar. 30, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0231.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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