A Big Earth Data Platform for Three Poles

**WATER: Dataset of sun photometer observations in the Zhangye city foci experimental areas from Mar. 30 to Apr. 2, 2008**

1、Description

The dataset of sun photometer observations was obtained in the Zhangye city foci experimental areas (38°56′8.9″N, 100°27′8.3″E, 1400m) from Mar. 30 to Apr. 2, 2008.   
 Measurements were carried out by CE318 for 1640nm, 1020nm, 936nm, 870nm, 670nm, 550nm, 440nm, 380nm and 340nm, and column water vapor by 936 nm data on Mar. 30 and 31, Apr. 1 and 2, 2008.   
 Accuracy of CE318 could be influenced by local air pressure, instrument calibration parameters, and convertion factors.   
 (1) Most air pressure was derived from elevation-related empiricism, which was not reliable. For more accurate result, simultaneous data from the weather station are needed.  
 (2) Errors from instrument calibration parameters need correcting. Thus field calibration based on Langly or interior instrument calibrationcin the standard light is required.  
 (3) Convertion factors for retrieval of aerosol optical depth and the water vapor of the water vapor channel were also from empiricism, and need further checking.   
 Raw data were archived in k7 format and can be opened by ASTPWin. ReadMe.txt is attached for detail. Preprocessed data (after retrieval of the raw data) in Excel format are on optical depth, rayleigh scattering, aerosol optical depth, the horizontal visibility, the near surface air temperature, the solar azimuth, zenith, solar distance correlation factors, and air column mass number. Langley was used for the instrument calibration.  
 Two parts are included in CE318 result data (see “Geometric Positions and the Total Optical Depth of Each Channel” and “Rayleigh Scattering and Aerosol Optical Depth of Each Channel”).

2、Keywords

Theme：Aerosol,Remote Sensing Technology,Aerosol optical depth/Thickness,Solar spectrophotometer,Atmospheric Water Vapor  
Discipline：Atmosphere,Remote Sensing Technology  
Places：Heihe River Basin, Zhangye City Foci Experimental Area, the cold region hydrology experimental area in the upper reaches  
Time：2008-04-01,

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：1.98MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.18839 | - |
| west：100.096381 | - | east：100.286566 |
| - | south：38.01113 | - |

5、Time frame:2008-04-10 00:00:00+00:00--2008-04-13 09:36:00+00:00

6、Reference method

References to data:

SU Gaoli. WATER: Dataset of sun photometer observations in the Zhangye city foci experimental areas from Mar. 30 to Apr. 2, 2008. A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0298.db2013

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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