A Big Earth Data Platform for Three Poles

**Aerosol optical thickness in the three polar region V1.0 (2000-2019)**

1、Description

The "poles AOD Collection 1.0" aerosol optical thickness (AOD) data set adopts the self-developed visible band remote sensing inversion method, combined with the merra-2 model data and the official NASA product mod04. The data covers from 2000 to 2019, with the time resolution of day by day, covering the "three poles" (Antarctic, Arctic and Qinghai Tibet Plateau) area, and the spatial resolution of 0.1. Degree. The inversion method mainly uses the self-developed APRs algorithm to invert the aerosol optical thickness over ice and snow. The algorithm considers the BRDF characteristics of ice and snow surface, and is suitable for the inversion of aerosol optical thickness over ice and snow. The experimental results show that the relative deviation of the data is less than 35%, which can effectively improve the coverage and accuracy of the aerosol optical thickness in the polar region.

2、Keywords

Theme：Aerosol,Aerosol optical depth/Thickness  
Discipline：Atmosphere  
Places：Three poles  
Time：2000-2019

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：12000.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：-180.0 | - | east：180.0 |
| - | south：-60.0 | - |

5、Time frame:2000-01-09 16:00:00+00:00--2019-02-08 16:00:00+00:00

6、Reference method

References to data:

GUANG Jie. Aerosol optical thickness in the three polar region V1.0 (2000-2019). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2702602019

References to articles:

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

name: GUANG Jie  
unit: Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences  
email: guangjie@radi.ac.cn