A Big Earth Data Platform for Three Poles

**Lidar, Multispectral and Thermal Remote Sensing Datasets of Typical Stations in Middle Reaches of Heihe River Basin based on UAV Remote Sensing (2020)**

1、Description

Lidar, multispectral and thermal infrared data are important observation data in the research fields of hydrology, ecology and environmental monitoring. This data set is the observation data of UAV in the integrated observation experiment of heaven and earth in the middle reaches of Heihe River Basin in 2020. The data set includes UAV remote sensing data from August 16 to 21, 2020. The UAV platform is Dajiang Phantom 4-multispectral version. Including lidar data of Daman superstation (August 16-21), Huazhaizi station (August 19) and Wetland station (August 21). The laser scanning system is Tovos DroneScan, with scanning frequency of 300000 points/s, point density of 100 points/m2 and scanning accuracy of 5 cm; Multispectral data of Daman superstation (August 18), Huazhaizi station (August 19) and Wetland station (August 21). The data set includes five bands of images, namely blue (450nm ± 16nm), green (560nm ± 16nm), red (650nm ± 16nm), red edge (730nm ± 16nm) and near infrared (840nm ± 26nm); And NDVI and reflectance data products corresponding to Wetland station and Huazhaizi station. The spatial resolution of the above data is about 0.2 m; In addition, it also includes the thermal infrared data of Huazhaizi station (August 18 and 19) and Wetland station (August 21). The wavelength range of thermal infrared channel is 7.5-13.5 μm. Imaging system sensitivity (nedt) < 50 mk, maximum frame rate: 30Hz, scene range (high gain): 640 × 512: -25° to 135℃, 336 × 256: -25° to 100℃, scene range (low gain): -40° to 550℃.

2、Keywords

Theme：Object spectral,Terrestrial Surface Remote Sensing  
Discipline：Terrestrial Surface  
Places：Daman superstation, Huazhaizi station, Wetland station  
Time：2020

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：51026.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.982 | - |
| west：100.308 | - | east：100.452 |
| - | south：38.756 | - |

5、Time frame:None--None

6、Reference method

References to data:

Lidar, Multispectral and Thermal Remote Sensing Datasets of Typical Stations in Middle Reaches of Heihe River Basin based on UAV Remote Sensing (2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Ecolo.tpdc.2718032021

References to articles:

7、Supporting project information

Innovative development of equipments and internet-of-things techniques for ecosystem monitoring and its demonstration

8、Data resource provider