A Big Earth Data Platform for Three Poles

**UAV remote sensing image and model product data set in demonstration area (2019-2021)**

1、Description

On October 24, 2019 and June 9, 2021, the special group conducted UAV flight operations in the debris flow gullies of Jilong gully, Tianmo gully and Guxiang gully in Bomi County, Nyingchi City, Tibet Autonomous Region, and generated the real three-dimensional model and digital surface model (DSM) of the debris flow gully in the demonstration area; In 2020, he worked in Kada village, Bomi county and generated real 3D model, digital surface model, digital orthophoto (DOM) and digital elevation model (DEM); On June 9, 2021, it was operated again in guxianggou to obtain the real 3D model and digital surface model. The spatial resolution of the above products is about 0.1M, and the main processing methods are as follows:  
(1) The real scene 3D modeling method based on UAV remote sensing can obtain rich texture information and generate dense 3D point clouds by using UAV photogrammetry technology. Combined with automatic real scene 3D modeling technology, the real 3D scene can be obtained.  
(2) The obtained three-dimensional model is optimized by cavity repair and filtering, which effectively fills the water cavity in the three-dimensional model.  
(3) Based on 3D modeling, DSM data of the demonstration area can be directly generated in CC.  
(4) Use mapmatrix to interpolate the polygon of DSM, erase the height of vegetation and other ground objects, and get DEM data.  
(5) The accuracy of 3D modeling is optimized by pricking operation.

2、Keywords

Theme：Topography,DSM (Digital Surface Model),three-dimensional model  
Discipline：Terrestrial Surface  
Places：Nyingchi Area  
Time：2019-2021

3、Data details

1.Scale：None

2.Projection：

3.Filesize：43055.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.05 | - |
| west：94.98 | - | east：95.73 |
| - | south：29.75 | - |

5、Time frame:2019-10-23 16:00:00+00:00--2021-06-09 03:59:59+00:00

6、Reference method

References to data:

PENG Shuying , HUANG Fang . UAV remote sensing image and model product data set in demonstration area (2019-2021). A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2720442022

References to articles:

7、Supporting project information

8、Data resource provider

name: PENG Shuying   
unit: University of Electronic Science and Technology of China  
email: pengshuying@std.uestc.edu.cn  
  
name: HUANG Fang   
unit: University of Electronic Science and Technology of China  
email: hfhbhzp@uestc.edu.cn