

The fine geographical feature expression technique of the 3-dimensional data by LiDAR

Yukihide Akiyama[1]

[1] AERO ASAHI

It is common that the delicate height difference cannot be expressed even if an outline can be expressed by the level difference, when DTM data, such as a geographical feature side by which analysis processing was acquired and carried out by three dimensions, is also developed in 2-dimensional space etc. However, the form of the open space which looks flat, a road, etc. is also rolling up and down, and may be able to do a puddle at the time of rain. If the information on the form which is parallel with a light source if a shade figure gives a light source from across may be crushed and a light source is placed perpendicularly, it is impossible for the flat ground of ridges and valleys part to distinguish it clearly, although a shade figure is usually in a technique picture-izing 3-dimensional data. Then, in order to improve those weak points, the picture which added the element of a height difference was developed. The method is expressed in 3-dimensions by expressing the male and female principles of difference with the value which covered the low path filter over geographical feature for the information on the color of temperature. The various usage of this 3-dimensional beauty geographical feature expression was considered.

Result.

1. 3D expressions are made of 2D picture of only once.
2. A ridgeline becomes clear and valley classification becomes easy.
3. The detailed unevenness of the flat ground is classified and the submersion-under-water range can be seen.
4. Fine geographical feature expression of rille and gully, a dislocation, etc. is attained.
5. It is effective as a geographical feature decipherment support picture.

It became clear that

It is expected that this technique becomes an aid of geographical feature decipherment or an elucidation of geographical feature geology.

