Application of LiDAR in Image Classification

Yoana Tsarovska (BG)

ABSTRACT

In this paper is analyzed laser scanning system LiDAR, which is now definitely among the most used and highly accurate method for obtaining three-dimenstional spatial information of the earth's surface in worldwide.

In essence, it is an electron-optical remote technology for determining distances to objects using a direct beam of light (without need of direct access to the objects themselves) - the three-dimensional laser scanner creates the so-called point cloud (each of which contains geometric information for the object) on the basis of which its form is determined by extrapolation. In addition, due to the high accuracy of the obtained real shapes of objects, laser scanning is one of the few possible technologies for creating digital models of objects with complex geometric shapes. The report also compares experimentally obtained 3D terrain models, with a view to their application in subsequent computer classification. The conclusion is substantiated that these models are a reliable basis for performing object-oriented classification of multispectral images by defining different characteristics.
Key words: LIDAR, classification, terrain models.

AUTHOR:

Eng. Yoana Tsarovska,
UACG,
"Hristo Smirnenski" 1,
Sofia, Bulgaria,
email: yoanatsarovska@abv.bg