TECHNIQUE OF AUTOMATIC MOBILE LASER SCANNING DATA FILTERING

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The result of laser scanning is an array of laser points. The generation of a single point cloud in a given coordinate system is carried out during the registration process at the stage of preliminary field data processing. At this stage it is also often necessary to filter the data. Laser points with an erroneous position are eliminated during the data filleting. The number of erroneous laser points is determined by the of the laser scanner characteristics, surveyed area peculiarities and weather conditions. The development of methods and algorithms for filtering laser scanning data is carried out based on the analysis of the laser point spatial position and a certain set of additional characteristics, such as intensity value, echo signal, color value. The technique of mobile laser scanning data filtering for the territory of the road passing among the forest and close to individual industrial facilities and building. The main goal of the proposed filtration technique is to obtain data for automatic generation of an accurate digital terrain model. The filtration technique was developed for data acquired under the least favorable conditions – in wet weather. Accuracy estimation of generating digital terrain model based on filtered data was carried out.

Keywords: mobile laser scanning, data filtering, vegetation, digital terrain model, accuracy estimation

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