

Application of airborne laser scanning in forests

Abstract

The main aim of this work is to determine a laser pulse penetration through forest stands according from airborne laser data acquired at the beginning of a vegetation growth. Another goal is to evaluate different methods of mean tree height determination. In the first part the technology of airborne laser scanning (ALS) and its application in forest inventory is introduced. The use of ALS data for generating digital terrain models in forested areas is evaluated. A project of a new digital elevation model of the Czech Republic is introduced. Furthermore, methods of data processing are described and characterization of areas of interest in Dobruska and Sobotka is done. Comparison of a laser pulse penetration through different forest types and evaluation of a suitable method for mean tree height determination are main outputs of this work.

Keywords: airborne laser scanning, digital terrain model, laser pulse penetration, mean tree height.