Land cover classification from hyperspectral images in recultivated area of the Sokolov lignite basin

Abstract

The aim of the dissertation is to establish a methodology for vegetation classification from hyperspectral data of the HyMap sensor. The final output is a supporting map for the investigation of mining impacts on vegetation health in the vicinity of surface quarries at the Sokolov lignite basin. Five different classification algorithms were applied on the data and the best result was put more precisely in the second classification round. Given the pixel size and desired result details, subpixel classification options were tested and the question of what level of classification details could be achieved with given data was answered. The results are part of the project "Assessment of Mining Related Impacts Based on Utilization of Airborne Hyperspectral Sensor ARES“.

Keywords: hyperspectral image data HyMap, land cover mapping, the classification alghoritm, subpixel analysis, Sokolov lignite basin