

# Temperature characteristics of surface using remote sensing methods

## *Abstract*

The aim of this thesis is to design a methodology for refining the land surface temperature values obtained from Landsat 8 satellite data in areas with diverse land cover. The research section describes factors influencing the radiation of the Earth's surface. Also mentioned are current methods used for processing infrared thermal data and calculate land surface temperature. The practical part describes satellite and airborne data used in the analytical and verification process. All parts of the applied method leading to the subpixel value of the land surface temperature are described in detail in the method part. The results are then compared with airborne verification data with better spatial resolution and with currently used methods. Finally, the pros and cons of this method and its possible improvement in the future are mentioned.

**Key words:** land surface temperature, land surface emissivity, satellite data, Landsat 8, airborne data, subpixel method, Czech Republic