

## ABSTRACT

The purpose of the diploma project is development of non-contact temperature measuring device with additional functions and mobile application that can be used both for production purposes and in everyday life.

Within this project the theoretical bases of non-contact temperature measurement were investigated, the remote measurement device of temperature indicators of radiation type was designed, optical system of the device was modeled and calculated, components were selected, functional and basic electric schemes, assembly drawings and mobile application for convenient device control were developed.

The work is presented on 61 pages (without supplements), contains 7 tables, 36 figures, 4 graphic drawings and 19 literature sources.

*Keywords:* non-contact temperature measurement, pyrometry, pyrometers of partial radiation, pyrometers of spectral radiation, pyrometers of total radiation, radiation temperature, color temperature, luminance temperature, optical system.