ABSTRACT

The phase rangefinder is a high-precision device for remote measurement, which has found application in construction, geodesy, robotics and other fields. The goal of the bachelor diploma project is the development of a laser phase rangefinder, which ensures high measurement accuracy and speed.

Within this project, the theoretical foundations of rangefinders, principles of operation of rangefinder various types and their classification, review of existing analogues, structural diagram of a phase rangefinder were designed, the collimator channel and the lens channel of the optical system were synthesized, and the selection of available and small-sized electronic components was carried out.

The work is laid out on 63 pages (without appendices), contains 3 sections, 38 illustrations, 18 formulas, 1 table and 39 literary sources.

Key words: telemetry, remote distance measurement, rangefinder, phase rangefinder, distance measurement, phase shift, optical-electronic device.