

### **Annotation**

This thesis project described the MIMO technology, its application in LTE networks. The analysis of MIMO systems was carried out, methods of interference equalization were studied.

The analysis of the MIMO-OFDM receiver model was carried out with two methods of interference equalization: LMS (Least squares method - Least squares method) and RLS (Recursive least squares method - recursive least squares method) with a different number of transmit and receive antennas (2x2, 4x4, 6x6 ... Based on the analysis results, another method of interference equalization was chosen, an adaptive filter, which provides the highest noise immunity of the system and the best characteristics.

Also, methodological instructions were drawn up for laboratory work on the discipline "Radio systems and mobile networks", an analysis of working conditions was carried out, and a calculation of industrial lighting and air conditioning was made. A business plan was also drawn up.