

INFORMATION ON DOCTORAL DISSERTATION

Title of the thesis:

ON THE STUDY OF DESIGN SOLUTION AND PERFORMANCE EVALUATION OF CHANNEL CODE FOR HAP COMMUNICATIONS SYSTEM

Specified field of study: Telecommunications Engineering

Code of specialty: 9.52.02.08

Name of the PhD candidate: Nguyễn Thị Thu Hiền

Name of the research supervisors:

1. Associate Professor Lê Nhật Thăng, Ph.D.
2. Associate Professor Nguyễn Thúy Anh, Ph.D.

Academic Institution: Posts and Telecommunications Institute of Technology

THE SCIENTIFIC CONTRIBUTIONS

The scientific contributions of the thesis are summarized as follows:

1. Determining the channel capacity boundaries for the HAP communications system considering impact of the elevation angle in order to evaluate the performance of channel code.
2. Proposing the solutions for using and designing the near-capacity IrCC based on EXIT chart, that adapts to channel states, different code rates and modulation schemes of HAP communications system.
3. Developing the analytical model to evaluate bit error probability performance of HAP communications system using IrCC-URC-QPSK coding scheme.

ON PRACTICAL APPLICABILITY AND FURTHER STUDIES

The dissertation proposed the solutions for using IrCC code, designing of near-capacity IrCC and analytical model for evaluating the performance of HAP communications system. The dissertation's results can be applied for designing and evaluating the feasibility of HAP communications systems. In addition, the dissertation can be used as a reference document for further related studies.

Research supervisors

PhD candidate

Assoc. Prof. LÊ NHẬT THĂNG, Ph.D
Assoc. Prof. NGUYỄN THÚY ANH, Ph.D

NGUYỄN THỊ THU HIỀN