

Research on multi-level modulation techniques in high-speed optical communication systems

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Abstract: This topic aims to determine the position and importance of M-ary digital modulation techniques in high-speed optical communication systems. The objective is to develop an optimal method for converting digital signals into a form suitable for the optical transmission channel. Thereby, ensuring the quality and performance of fast and stable information transmission. The research method combines theory and experimentation to build a new M-ary digital modulation model, for application in practical projects on optical information technology. The results of the topic promise to make a significant contribution to the development process of modern communication technology.

Keywords: modulation technique, optical communication system, high speed, optimization method, control model