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ABSTRACT

The main objective of this project is to develop a Modulation Technique Learning Package by using MATLAB Graphic User Interface (GUI). The Modulation Technique Learning Package (MLTP) is targeted to be used in teaching and learning the electrical communication engineering. The project is developed to make the instructor task easier in teaching the modulation technique concepts and help students in getting clearer understanding of how modulation works. The MLTP is divided into analog and digital modulation. Analog modulation techniques include Amplitude Modulation (AM), Frequency Modulation (FM), and Phase Modulation (PM), while digital modulation techniques are Amplitude Shift Keying (ASK), Frequency Shift Keying (FSK) and Phase Shift Keying (PSK) [2]. Quadrature Amplitude Modulation (QAM) can be both analog and digital but in this project QAM is referred as a digital modulation. The MLTP provides the lecture notes, input and output of the signal frequency spectrum and the probability of error for each of the modulation types. Hopefully, the MLTP will help student in their independent learning as well as a teaching aided to lecturer of the higher learning institution.

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