

Design of a Time-Frequency Domain Analysis Online Laboratory Utilizing the EMONA Datex

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Keywords

This paper presents the work undertaken to integrate the Frequency Domain Functionality of the EMONA DATEx into the iLabs Shared Architecture. The research was undertaken to improve the functionality of the online laboratory supporting time-domain analysis, which was developed at Makerere University in the 2008/2009 academic year. The laboratory is used as part of course work assessment for students offering the Communication Engineering course, under the Bachelors of Science in Electrical and Telecommunications Engineering Programmes. By introducing the frequency domain component in the laboratory, users are facilitated to investigate signal conversion between the time and frequency domains, and identify the associated frequency components. The laboratory also provides options for Power Spectrum and Power Spectral Density analyses.

Keywords

Analog Modulation
EMONA DATEx
Frequency Domain Analysis
Time Domain Analysis
iLabs Shared Architecture