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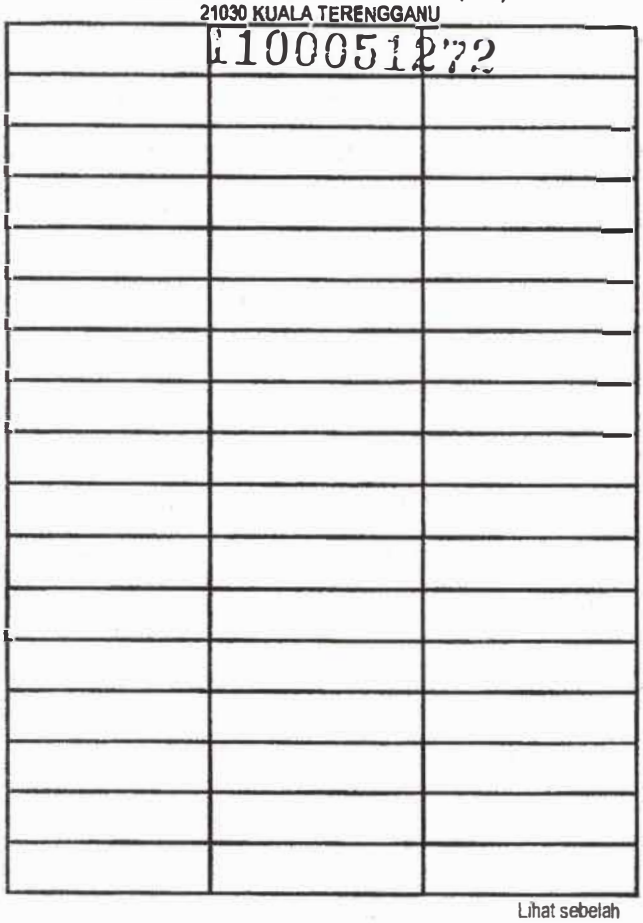
Modelling and simulation of equations for signals and systems /
Nik Aziz Nik Ali.



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MODELING AND SIMULATION OF EQUATIONS FOR SIGNALS AND SYSTEMS

By
Nik Aziz bin Nik Ali

Project Report submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Applied Science (Physics Electronics and Instrumentations)

Department of Physical Sciences
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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **MODELING AND SIMULATION OF EQUATIONS FOR SIGNALS AND SYSTEMS** oleh **NIK AZIZ BIN NIK ALI** , no matrik **UK10960** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Fizik sebagai memenuhi sebahagian daripada keperluan Ijazah Sarjana Muda Sains Gunaan (Fizik Elektronik dan Instrumentasi), Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS / SYMBOLS

Abbreviation

FT	Fourier transform
LT	Laplace transform
ZT	Z transform
MATLAB	Matrix Laboratory
GUI	Graphical User Interface
uicontrol	User interface control
uimenu	User Interface menu
uicontextmenu	User Interface Context Menu
SIMOS	Simulation for signal and system
GUIDE	Graphical User Interface Development Environment
M-File	MATLAB File
FIG-File	Figure File

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ABSTRACT

Nowadays, everyone wants to solve the problem easily without burden themselves. Base on that factor, the simulation to convert the time signal to the representations for signal is done. The representations for signal that have been focused are Fourier transform, Laplace transform and Z transform. Graphical User Interface (GUI) in Matrix Laboratory (MATLAB) software is used to create the interface of these three representations for signal. The user just need to enter a desired time signal equation into edit text box and by a single click on the specified button, the representation for the signal will be displayed in the text box and the graph will also appear. If before, users must refer to the table every time they want to convert the time signal to representations for signal but now is not to do so. Overall, this project was done successfully and the result that has been obtained was similar to the standard value.

ABSTRAK

Dalam zaman sekarang ini, semua orang mahukan kerja yang dilakukan siap dengan cepat tanpa membebankan diri sendiri. Berdasarkan faktor itulah, maka satu simulasi untuk menukarkan isyarat masa kepada perwakilan isyarat telah dibuat. Perwakilan isyarat yang difokuskan adalah jelmaan Fourier, jelmaan Laplace dan jelmaan Z. GUI (Graphical User Interface) di dalam pengaturcaraan MATLAB (Matrix Laboratory) digunakan untuk membina antara muka bagi ketiga-tiga perwakilan isyarat tersebut Pengguna hanya perlu memasukkan isyarat masa yang diingini ke dalam ruangan mengedit teks dan dengan hanya menekan butang tertentu, maka perwakilan isyarat akan terpapar diruangan teks bersama dengan graf. Jikalau sebelumnya, penguna perlu merujuk jadual satu persatu untuk menukarkan isyarat masa kepada perwakilan isyarat tetapi sekarang tidak perlu lagi. Keseluruhannya, dilaksanakan dengan baik sekali dan keputusan yang diperolehi menyamai dengan nilai piawai yang sebenar.