

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

**PV ARRAY AND MAXIMUM
POWER TRANSFER**

E. 1394

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PROJECT SUPERVISORS:

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DR S KALOGIROU

JUNE 2006

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ABSTRACT

In this project we are investigating how the power from a PV array can be maximised. This is done in two ways: Sun tracking and MPPT. Experimental work is presented to show how the output power varies with the load, the time of day, the elevation of the PV panel. Furthermore extra illumination from a metal sheet is shown to increase the output power slightly.

In chapter 1 we state the different renewable sources of energy. We learn about the installation and the benefits of each system.

The current and future of the photovoltaic technology is showed in chapter 2. In chapter 3 we make various experiments in order to proof, if with extra illumination can achieve higher output power.

In chapter 4 we investigate the various ways of maximizing the output power of a photovoltaic array.

And at the end in chapter 5 we discuss the comments and conclusions for the experiments. Also we illustrate the future work that we will do in order to construct an electrical system that maximizes the output power of a PV array.

Dedications

This project is dedicated to my dearest grandparents Stelios & Eva and my beloved mother Anna who supports me since childhood.

ACKNOWLEDGEMENTS

I would like to express my gratitude to all the lecturers who guided me throughout this project.

Also my regards goes to all those who helped, guide and supported me to graduate from H.T.I.

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