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A B S T R A C T

This project appointed by the Higher Technical Institute deals with the design construction and testing of a system for the continuous tracking of the sun on the horizontal and vertical planes for the purpose of solar energy collection.

Also it deals with the local irradiation parameters and a study of the cost per unit extra energy collected using the above system.

Encouraged by the fact that in Cyprus the sun is shining at least 10 months of the year during long and short periods every day, I intend to present a system for control of solar energy collection.

The system is composed of three parts. The sensing element of sun position, the main part and the driving circuit. The main part is composed of a microprocessor which manipulates data input by the first part and outputs results to the driving circuit. In appendices another solution is given in details and also a completed drawing of the mechanical structure is attached.

It is considered of importance to give some information about sun, its energy and its location in the sky annually. In chapter B a description of solar cells is given. Also some hints about future development and applications are included.

Finally there is an electrical approach and analysis in chapter C. It is better to give the project in small integrated parts in order to be more pleasant when it is going to be studied.

I hope that in future time, more serious consideration should be made about solar energy utilization techniques and collect solar energy, which we have so much in Cyprus.

The fact that a pericentration continues, that it is indeed of great importance the development of such a system.

C O N T E N T S

ACKNOLEDDGEMENTS

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INDRODUCTION

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