

Design of a solar control tracking system

by

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*Project Report
submitted to
the Department of Mechanical Engineering
of the Higher Technical Institute
Nicosia, Cyprus
in partial fulfilment of the requirements
for the diploma of*

TECHNICIAN ENGINEER

in

MECHANICAL ENGINEERING

May 1990

HIGHER TECHNICAL INSTITUTE	PROJECT NO 1702
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SOLAR CONTROL TRACKING SYSTEM

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SUMMARY

The diploma work appointed by the Higher Technical Institute was performed in order to design the control system for a solar collector system. The control system was developed based on the concentrated solar collector which is kept in the H.T.I. plant engineering laboratory.

The following study begins with a general introduction on the control systems and their types and continues with the design process for the design of the control system. After the design process is completed the electronic circuits which will be used to control the solar collector system were constructed.

After carrying out the about task the modelling of both the collector and the system were performed. As a result the transfer functions were developed. Further more, the response of the systems was studied but unfortunately was not obtained correctly due to the fact that the comprehensive control program which has been extensively used for the stability analysis was not functioning properly.

A chapter on stability analysis is included in the study, giving among others informations on Nyquist, Routh, Bode stability criterions and compensation techniques.

Finally, the study ends with the explanation of the operation of the electronic circuits developed to control the solar collector system.

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ACKNOWLEDGEMENTS

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