DETECTION OF BRANCH FAILURES IN THE ROTATING RECTIFIER OF A BRUSHLESS EXCITATION SYSTEM

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The dissertation is submitted in partial fulfillment of the requirement for degree of M. Eng. in Electrical Engineering

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May 2001

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PREFACE

This research is about the principal of operation and the construction of a detector circuit to identify the branch failure conditions in the rotating diode bridge of a brushless excitation system. Brushless excitation is used in high-speed synchronous generators.

The principal of detection is based on the harmonics present in the exciter field current. Different failure conditions give different contents of harmonics.By identifying harmonics it is possible to interpret the type of fault..

The circuit that detects exciter harmonic following a failure in a diode branch gives an alarm or indication. This circuit can be applied to any brushless excitation system.

ACKOWLEDGMENTS

I wish to express my gratitude to my Supervisor, Dr.J.P.Karunadasa of the Department of Electrical Engineering at University of Moratuwa and Co-Supervisor, Chief Engineer Mr.A.K.Samarasinha at Ceylon Electricity Board for their great guidance, support and encouragement through out the project.

I should like to thank to many people who directly or indirectly have supported me and Thanks to Professor J.R.Lucas and Dr. H.Y.R.Perera of the Department of Electrical Enginneering at University of Moratuwa for their support.

Finally I must express my deep appreciation to my wife, Wasantha for her encouragement to completion of my Research.

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