

Thesis Title

Author Name

Thesis Title

*Thesis submitted to
Indian Institute of Technology, Kharagpur
for the award of the degree
of*

Doctor of Philosophy

by

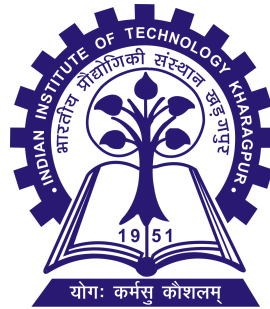
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Department of <Department Name>
INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR

January 2021

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APPROVAL OF THE VIVA-VOCE BOARD

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This is to certify that this thesis entitled **Thesis Title** submitted by **Author Name**, to the Indian Institute of Technology Kharagpur, is a record of bonafide research work carried out under our supervision and is worthy of consideration for award of the degree of Doctor of Philosophy of the Institute.

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Declaration

I certify that

- a. the work contained in the thesis is original and has been done by me under the guidance of my supervisors;
- b. the work has not been submitted to any other institute for any other degree or diploma;
- c. I have followed the guidelines provided by the Institute in preparing the thesis;
- d. I have conformed to ethical norms and guidelines while writing the thesis;
- e. whenever I have used materials (data, models, figures and text) from other sources, I have given due credit to them by citing them in the text of the thesis, and giving their details in the references, and taken permission from the copyright owners of the sources, whenever necessary.

Author Name

Dedicated to

My loving parents

Acknowledgment

Abstract

*S*_{ignal} parameters

Keywords: Bayes theorem.

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List of Abbreviations

AC Alternating current
AR Autoregressive

List of Symbols

- $(\cdot)^T$ Transpose operation.
 $(\cdot)^H$ Hermitian transpose operation

CHAPTER 1

Introduction

*T*his thesis focuses

1.1 Motivation

Motivate ...

1.2 Background

Tell the background. Cite reference [1] and [2]. You can add an image here as shown in Fig. 1.1. You can add table as shown in Table 1.1

1.3 Research Issues

List the issues here.

Table 1.1: Table of Thesis

Heading 1	Heading 2	
	Sub Heading 1	Sub Heading 2
Item 1	123 %	456
Item 1	123 %	456



Figure 1.1: Caption of Figure

1.4 Research Objectives

This thesis objectives can be listed as follows:

- obj1
- obj2
- obj3

1.5 Contributions

The main contributions of this thesis can be summarized as follows:

- **Developed XYZ:** Say something here.

1.6 Thesis Organization

- **Creation of PQR:** Text here.

1.6 Thesis Organization

1.7 Conclusions

Summary of the chapter goes here

Conclusions from the Thesis and Future Research Directions

*T*_{his thesis}

Appendices

Appendix 1

A.1 Appendix Section 1

Text 2.

A.2 Appendix Section 2

Text 2.

APPENDIX **B**

Appendix-2 Title

Bibliography

- [1] A. K. Samanta, A. Routray, S. R. Khare, and A. Naha, “Direct Estimation of Multiple Time-Varying Frequencies of Non-Stationary Signals,” *Signal Process.*, vol. 169, p. 107384, 2020.
- [2] A. K. Samanta, A. Naha, A. Routray, and A. K. Deb, “Fast and Accurate Spectral Estimation for Online Detection of Partial Broken Bar in Induction Motors,” *Mech. Syst. Signal Process.*, vol. 98, pp. 63–77, 2018.

Dissemination out of the Thesis

Patent Filed

1. A. Routray, A. Naha, **A. K. Samanta**, Amey Pawar, & Chandrasekhar Sakpal, “A system for assessment of multiple faults in induction motors”, WO2019167086A1, 2019.

Journals

1. **A. K. Samanta**, A. Routray, S.R. Khare, & A. Naha, “Minimum Distance-based Detection of Incipient Induction Motor Faults using Rayleigh Quotient Spectrum of Conditioned Vibration Signal [Accepted]”, *IEEE Transactions on Instrumentation and Measurement*.
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Author Biography

Anik Kumar Samanta has received his M.S. degree from Indian Institute of Technology Kharagpur in 2016, and his B. Tech. degree from Dr. B. C. Roy Engineering College, Durgapur, India, in 2011. He was also associated with the Center for Railway Research for designing diagnostics of induction motors for the Indian Railways. Currently, he is pursuing his doctoral degree in signal processing at IIT Kharagpur. His research interests include high-resolution spectral estimation, signal-based fault diagnosis of induction motors, detection theory, detection and estimation of parameters under non-stationary conditions, and embedded signal processing. **Homepage:** <https://eceanik.github.io/>

