

Acknowledgments

At the outset, I thank Almighty God for blessing me with ability, courage and strength to pursue research work. I express my deep sense of gratitude towards my Guide Dr. Mrs Shailaja Kurode for believing in me and giving me the opportunity to work under her able guidance. She always stood by me throughout the process and motivated intellectually and emotionally. She is the one, solely responsible for cultivating research attitude and keeping the quest for the knowledge live. I could not have imagined a better advisor and mentor for my Ph.D study. It was Professor S B Phadke, who inspired me in selecting my field of research as sliding modes. I would like to thank him sincerely from the bottom of my heart.

I would like to acknowledge the quality inputs given by the advisory committee members Prof V S Bandal, Prof D B Talange, Prof Sevatkar and Prof P D Shendge, from time to time for making my research worth. I am grateful to them for their valuable contributions. There was a great amount of support for carrying out the work at the place of research and I would be failing in my duties if I don't mention sincere thanks to the administration i.e. then Head Dr. S.S.Dambhare, present Head Dr. D B Talange and the entire Department of Electrical Engineering, COEP. It provided a very conducive environment for research and all the necessary facilities. Dr P D Shendage deserves special appreciation for helping me out in getting access to the Quanser laboratory in the Department of Instrumentation and Control Engineering.

Special thanks are due to Prof Bandopadhyay, IIT Mumbai and his research team Shyam, Abhisek, Asif who always solved my technical queries without any hesitation.

A work carried out with goals and with certain objectives, can never be completed without help and support from friends, family and well wishers. This acknowledgement must start from my companion, Bhagyashri, with whom the journey of research began. More than studies it was almost a living together these years. I will not thank her but would like to remain in the

gratitude all through my life.

It has always been the persistent encouragement and support of my family, especially, my considerate daughters and my husband, which resulted in my PhD admission and subsequent completion of this research work. Their encouragement throughout these years motivated to complete the work faster. I appreciate their patience. I will remain deeply and greatly indebted and grateful to them. I am grateful to my parents and in-laws for their support throughout my education. Their blessings and inspiration has been invaluable. The thanks will not end without mention of all of my CME colleagues, COEP friends and all other research scholar friends who always revealed the spirit of togetherness.

Though the degree is awarded individually, it is a team work indeed, with the well woven support system, without which, it is impossible to complete this herculean task. Hope this system remains with me forever.....

Date: _____

AMRUTA MUJUMDAR