

STATE ESTIMATION APPLICATIONS TO POWER SYSTEM PROBLEMS

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PREFACE

The thesis contains the results of investigations by the author carried out at the Department of Electrical Engineering at Indian Institute of Technology, Delhi over the period April 1971 to September 1973. The author has been looking for some areas of application of modern estimation techniques since the days of his M.Tech. studentship at Indian Institute of Technology, Delhi. His attention was drawn to the problems of power system load prediction and forecasting, and state estimation through the pioneering works of Toyoda, Schweppe, and Larson. Though these authors and their collaborators have contributed to a major extent, the results presented in this thesis are believed to be significantly new. These new results are spread over Chapters 2 to 7. Of these, Chapters 2 and 3 consider the short-term load prediction problem, Chapter 4 considers the daily maximum temperature and daily peak load prediction problems, Chapters 5 and 6 consider the short-term load forecasting problem, and Chapter 7 considers the power system static state estimation problem.

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