



POWER SYSTEM DYNAMICS

STABILITY AND CONTROL

K. R. PADIYAR

*Prof. Of Electrical Engineering at Indian Institute of Science,
Bangalore.*

Fellow of Indian National Academy of Engineering

KEY SELLING POINTS

- ◆ Broken down into five key areas for ease of reference.
- ◆ Author of over 180 papers and three books including HVDC Power Transmission Systems and Analysis of Subsynchronous Resonance in Power Systems.

BOOK INFORMATION

ISBN: 1 904798 012
Pub Date: August 2004
Format: Hardback
Extent: 572 pages

The book is divided into five parts with a total of 14 chapters. The first part begins by introducing the basic concepts of stability. The second part develops the system model in detail. Part three presents the small signal stability analysis applied to the problem of low frequency oscillations. Part four presents the SSR phenomenon and part five deals with the transient stability problem. The basic concepts of voltage stability and methods of analysis are discussed in Appendix A

Contents: Basic concepts; Review of Classical methods; Modelling of synchronous machine; Excitation and prime mover controllers; Transmission lines, SVC and loads; Dynamics of a synchronous generator connected to infinite bus; Analysis of single machine system; Application of power system stabilizers; analysis of Multimachine system; Analysis of subsynchronous resonance; Counter measures for subsynchronous resonance; Simulation for transient stability evaluation; application of energy functions for direct stability evaluation; Transient stability controllers; Introduction to voltage stability.