Computer Simulation for Electric Power Systems

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Summary: Electricity, which is one of the necessities of our daily life and industries, is continuously produced by many generation plants and delivered at light speed to our homes via large transmission and distribution networks. Reliable and economical delivery of electricity depends on precise and high-speed control of large electric power systems based on computer simulation analysis of the complex dynamics. This introductory course will give the fundamentals of numerical computation methods for analyzing simple electric power systems.

10

Time[sec]

12

Power system behavior is... Swings in generator state variables Stable or Unstable? き電機の内部相差角[rad] simulated by computer.