

Course 604

## Small Signal Stability Assessment Using SSAT

---

Course objectives	To provide the necessary background and technical skills for applications of SSAT
Material covered	<ul style="list-style-type: none"> <li>• The basic concepts of small signal stability of power systems</li> <li>• Modeling, analysis methods, and computational techniques</li> <li>• Operation of SSAT</li> <li>• Result analysis</li> </ul>
Who should attend	Engineers involved in power system stability studies using SSAT
Background required	<ul style="list-style-type: none"> <li>• Basic knowledge of power system modelling, dynamics, and stability analysis</li> <li>• Recommended prerequisite: Course 601 – powerflow analysis using PSAT</li> </ul>
Duration	2 days (extendable upon request)

### Part 1: Fundamentals of Small Signal Stability

1. Introduction to small signal stability
2. Description of small signal stability problems
3. Methods of analysis
4. Small signal stability enhancements
5. Case studies

### Part 2: Using SSAT

1. Recap of basics of SSAT, its operational principles and concepts
2. Data requirements
3. Modeling features
4. Input/output data formats
5. Program customization and operation
6. Result examination
7. Other features
8. Help sources

**Part 3: Hands-on Exercises**

1. Test case descriptions
2. Hands-on exercises including the following topics:
  - Create a simple SSAT case
  - Examine modal analysis results
  - Verify a critical mode with simulation
  - Explore mode computation options
  - Evaluate effectiveness of PSS
  - Design/tune PSS with CDT

Note: the actual contents of the course may be customized based on user requests; please refer to the course announcement for details.