

# **Multi-area analysis of small signal stability in large electric power systems by SMA**

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## **Abstract-**

**The authors present an efficient methodology for the analysis of small signal stability in large electric power systems. It is based on the selective modal analysis approach and assumes a multi-area structure of the small signal behavior in large power systems. In the proposed procedure, the system modes are separated into two categories (the inter-area and the intra-area modes) and are independently determined. Results of the application to a realistic large power system with 266 generators and 1472 buses are discussed.**

## **Index Terms-**

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