DEFINITION, EXAMPLES ROTOR ANGLE STABILITY: SWING EQUATION SMALL DISTURBANCE STABILITY LARGE DISTURBANCE STABILITY OR TRANSIENT STABILITY DYNAMICS OF MULTI-MACHINE SYSTEMS

CASE STUDIES

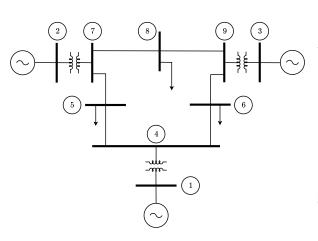


FIGURE: IEEE 9 Bus Test System

Large Disturbances

- Self-clearing fault
- Fault following by opening of line
- Line outage
- Sudden large change or loss of load
- Sudden large change or loss of generation
- Outage, followed by islanding

Small Disturbances

Gradual change in load

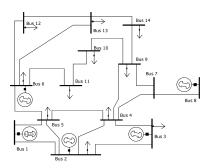


FIGURE: IEEE 14 Bus System

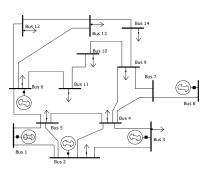


FIGURE: IEEE 14 Bus System

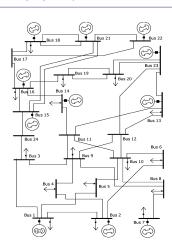


FIGURE: IEEE 24 Bus System

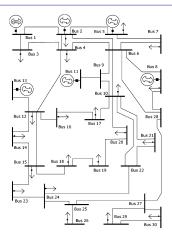


FIGURE: IEEE 30 Bus System

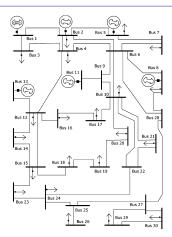


FIGURE: IEEE 30 Bus System

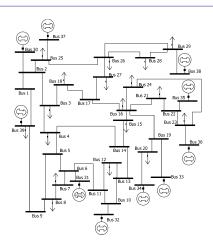


FIGURE: IEEE 39 Bus System

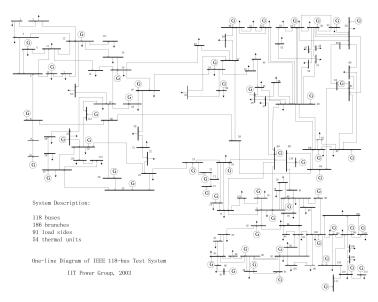


FIGURE: IEEE 118 Bus System