

## **Study of the Impact of Short Circuits on Transient Stability in the Syrian Power System Using PSS/E Program**

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### **Abstract**

**One of the challenges to the operation of a large and interconnected power systems is to insure that generators will remain in synchronism with one another following large disturbances such as short circuits on transmission lines and busbars with associated operation of protection system.**

**In this research, the impact of short circuits and their sustained duration on Syrian power system was analyzed through the dynamic simulation of three-phase faults at substations with varying fault clearance time at these substations.**

**In addition, critical fault clearing times on 230kV, 400kV network and substation busbars were determined, as well as the influence of distance protection and bus bar differential protection on Syrian power system.**

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**Key words: Short, Circuits, Transient Stability, Critical Clearing Time, Transmission lines, Distance Protection, Busbar Protection.**