Synchrophasor Technology

Synchrophasors are the time stamped phasors, which can be collected by different communication channels e.g. Fiber Optics. The sampling clocks are locked with the GPS which provide the “time stamping”. The time tags can also be used as the “Indexing tool” for the data. According to the IEEE 37.118, TVE (Time Vector Error) is used to define the accuracy of the Synchro phasors. Different techniques are used for the better estimation of the Synchro phasors. Some manufacturers are producing the relays/meters with Sychrophasor capability, which makes it easier and economic to use this advanced technology for the better operation and control of the power system. This technology, which is compatible with SCADA and provides better visual update rate can be used for more realistic Power System Modeling, State Measurement, Post Fault Analysis, Power Flow and optimum operation by knowing the real time “Stability Margins”. Different algorithms can be developed to take the advantage of this technology to improve the overall performance of Power Systems.

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