Title: Visualization Techniques for Dynamic Simulations of Electric Power Systems

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Abstract:

This brief will introduce visualization techniques for dynamic simulations of electric power systems in support of Information Operations/Information Warfare. Computer simulation of large-scale power systems generates a significant amount of time-series data that includes continuous signals (e.g., voltages, powers, and internal generator and load states) as well as discrete events (e.g., breakers, load sheds, and generator saturation). The purpose of the visualization methods presented is to convey key information from this large amount of data to a decision maker in an intuitive manner. Attributes of the visualization approaches include geospatial representation of power system topology and components and innovative methods of viewing the state of the grid to include dynamic presentation of simulation model results.