

# SECURITY-STATE ESTIMATION OF ELECTRICAL POWER SYSTEMS: A METHODOLOGICAL PROPOSAL

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## **Abstract:**

Security assessment techniques are a tool that allows the operational personnel of electrical systems to categorize operating conditions in different labels. Nowadays, the large size of power grids and the operating conditions close to their operating limits require efficient, safe and fast procedures to assess the overall grid security, being one of the challenges posed by smart grids conception. In this paper, a supervised learning approach that allows to integrate all the concepts of safety of the electrical network: voltage, angle, frequency, etc., to give an overall assessment of the system in terms of security which may be applied according to the regulations and geographical contexts of each country.

## **Keywords**

Power system security, Power system stability, Smart grids, State estimation