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## VOLTAGE STABILITY INVESTIGATION OF DISTRIBUTION NETWORK CONNECTED WIND POWER GENERATION

BY

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**Abstract:** Analytical expression of maximum power transfer through a grid limited by voltage stability is formulated using an exact representation of line with ABCD parameters. The expression is used to plot PV curves at different power factors of a radial system. Limited values of reactive power can be obtained. This paper describes the construction and test of a voltage stability of a weak rural distribution network, presents a method to study the relationship between the active power and voltage (PV) at the load bus to identify the voltage stability limit. It is a foundation to build a permitted working operation region in complying with the voltage stability limit at the Point of Common Coupling (PCC).

**Keywords:** Wind generator, Voltage stability.