

## عنوان مقاله:

Analytical Investigation of Wind Power Plants on Voltage Stability Margin Based L Index Formulation

## محل انتشار:

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## خلاصه مقاله:

In this paper, the effect of wind farm generation on the voltage stability margin of power system is investigated analytically. Nowadays, using wind power generating systems in electricity networks of the world is increasing rapidly. So, the effect of wind power plant generation should be studied in power system planning. Also, Voltage stability margin is an important concept in power system operation. The continuous development of interconnected power systems and consumer's power demand cause this problem become very complex. In this study, the effect of wind power plants production on voltage stability margin is analyzed by using the L index formulation as a new approach to considering the voltage stability margin. This method is based on increase in existing power generation and performing load flow and calculating the L index consequently. To show powerful performance of wind power plant on improvement of voltage stability margin, the wind power plant generation is added to standard IEEE-30 bus and IEEE-57 bus power systems and the results are obtained and analyzed in different conditions.

## کلمات کلیدی:

Voltage Stability, L Index, Wind Power Plant, Voltage Collapse, PV curve

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/201713>

