

## عنوان مقاله:

New Algorithm for Optimal Placement of Power Quality Monitors in Multi Voltage Level Power Systems

## محل انتشار:

بیست و دومین کنفرانس بین المللی برق (سال: ۱۳۸۶)

تعداد صفحات اصل مقاله: ۹

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## خلاصه مقاله:

This paper presents an optimal algorithm for power quality monitoring, which can show power quality's characteristic parameters. Objective function is defined based on number of monitors and cost of each one. Suitable constraints are obtained and formulated by the use of network's Topology. Digsilent simulation results indicate that each voltage level must be monitored to obtain all essential information of power quality. Optimization process was solved by integer linear programming in MATLAB. The method was carried out for two typical networks, a ۶ bus system with one voltage level and a ۴۲ bus system with five voltage levels. Minimum number and optimal placement for power quality monitors were determined and the results were compared with a full monitoring program in all buses. Comparisons verified that this method will reduce the costs drastically.

## کلمات کلیدی:

Power Quality, Monitoring, Objective Function, Linear Programming

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