A Risk Assessment of Transmission Line Overload Based on MLSI/PSO

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ABSTRACT

Aiming at the randomness of the output power of distributed generation, a method of transmission line overload risk assessment based on MLSI/PSO is proposed. Based on the traditional partial swarm optimization algorithm, the corresponding weights are selected according to the influence factors of each input quantity, and the calculation accuracy of the traditional point estimation method is improved to realize the overload risk assessment of transmission lines. The risk of transmission line overload in IEEE30 bus system with wind-solar complementary generation unit is evaluated. The analysis results show that the proposed method has the characteristics of low calculation cost and high prediction accuracy compared with traditional point estimation method.

KEYWORDS

Transmission line, overload; and generation rescheduling

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