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Work title: Research on Online Detection Method of High Voltage Circuit Breaker Closing Spring Fatigue based on Energy Storage Action Model

Annotation:

As the main energy source of the spring operating mechanism of high voltage circuit breaker, the probability of spring fatigue increases gradually with the increase of service time, which leads to the performance failure of the operating mechanism and seriously endangers the safe and stable operation of the power grid. Aiming at the above problems, the energy storage action model of the spring operating mechanism of the high-voltage circuit breaker was established, and the SSA was used to solve the model, which realized the online detection of the closing spring stiffness of the high-voltage circuit breaker. Further, this study established the mapping relationship between stiffness and fatigue, and realized the online monitoring of the fatigue degree of the closing spring of the high-voltage circuit breaker.