高压断路器液压操动机构管道特性研究 Pipe Characteristics of High Voltage Circuit Breaker with Hydraulic Operating Mechanism

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关键词： 高压断路器 液压操动机构 管道损失 分合闸速度 压力波传递

摘 要： 以550kV SF6高压断路器液压操动机构为研究对象，分析了液压机构分合闸过程中的管道损失和压力波传递效应，建立了管道损失和压力波动分布参数模型。对系统进行了建模和仿真，讨论了液压机构的管道特性及管道结构参数对系统分合闸性能的影响。试验验证了仿真结果，证明了仿真模型的准确性。The 550 kV high voltage circuit breaker with hydraulic operating mechanism is taken as the investigation subject. The pressure loss in pipe and the pressure wave propagation in the process of opening and closing motion are analyzed. The model of the pressure loss in pipe and the model of the pressure wave distributed parameter are established. Simulation is carried out by using AMEsim software. The influence of the pipe characteristics and structure parameters on the system performance is discussed. The simulation results are thought to be in accordance with the experiment results. It shows that the models are correct.

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