

高压电网绝缘子在线绝缘性能的多级模糊综合评判

李波, 刘念, 王秀婕

四川大学 电气信息学院, 四川省 成都市 610065

收稿日期 修回日期 网络版发布日期 接受日期

摘要

对绝缘子在线检测到的数据利用模糊综合评判的方法进行处理, 除对泄漏电流峰值、泄漏电流有效值、脉冲电流频度进行模糊化处理以外, 还利用曲线拟合的方法对泄漏电流奇次谐波和脉冲电流峰值进行模糊化处理。在构建模糊关系矩阵时, 用偏大型半梯形分布引入了相对湿度因子, 使得在计算过程中充分考虑天气的影响。从而得到绝缘子的在线绝缘性能和检修建议并通过现场试验数据验证了该方法的可行性。

关键词 [绝缘子](#); [泄漏电流](#); [脉冲电流](#); [模糊综合评判](#); [高电压技术](#)

分类号 [TM855](#); [TM216](#)

Multilevel Fuzzy Comprehensive Evaluation of On-Line Insulation Performance of High Voltage Insulators

LI Bo, LIU Nian, WANG Xiu-jie

Multilevel Fuzzy Comprehensive Evaluation of On-Line Insulation Performance of High Voltage Insulators

Abstract

By means of multilevel fuzzy comprehensive evaluation, the measured on-line data of insulators is processed, thus both on-line insulation performance of insulators and the suggestion on insulator overhaul are obtained. The feasibility of this method is verified by on-site testing data. Not only the fuzzified processing of peak value of leakage current and virtual value of leakage current as well as the scale-frequency of pulse current are conducted, but also the fuzzified processing of odd harmonics in leakage current and peak value of pulse current are conducted by curve fitting. During the construction of fuzzy relation matrix, by means of tend-to-large half-trapezoidal distribution the relative humidity factor is led in, thus the weather effect can be adequately taken into account during the computation.

Key words [insulator](#); [leakage current](#); [pulse current](#); [fuzzy comprehensive evaluation](#); [high voltage engineering](#)

DOI:

通讯作者

作者个人主页 [李波](#); [刘念](#); [王秀婕](#)

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF \(223KB\)](#)
- ▶ [\[HTML全文\]\(OKB\)](#)
- ▶ [参考文献\[PDF\]](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“绝缘子; 泄漏电流; 脉冲电流; 模糊综合评判; 高电压技术” 的相关文章](#)
- ▶ 本文作者相关文章

- [李波](#)
- [刘念](#)
- [王秀婕](#)