电网技术 2006 30 (23): 11-14 ISSN: 1000-3673 CN: 11-2410/TM

布置方式对直流绝缘子串人工污秽闪络特性的影响

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收稿日期 修回日期 网络版发布日期 接受日期

摘要
直流绝缘子串布置方式对污闪电压有影响，以2种典型直流瓷绝缘子(XZP-210和XZP-300)为试品，在人工雾室中通过试验研究了悬垂单串布置(I型)、悬垂双串布置(II型)和V型布置绝缘子串的直流负极性污闪特性，分析了布置方式对负极性污闪电压的影响。结果表明：直流绝缘子串布置方式对污闪电压有影响；在不同污秽程度下，V型布置时直流污闪电压比I型布置时高14.5%~25.9%，II型布置则比I型布置低4.2%~9.0%；且随着污秽程度的增加，V型布置相对于I型布置的污闪电压提高的百分数和II型布置相对于I型布置降低的百分数均增大。

关键词 布置方式；人工污秽；直流绝缘子串；闪络特性；高电压与绝缘技术

分类号 TM855

Influence of Suspension Mode on Artificial Pollution Flashover Performance of DC Insulator Strings

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Abstract
Suspension modes of DC insulator strings influence the pollution flashover voltage, whereas few researches are carried out to explore the influence of suspension modes on pollution flashover performance of DC insulator strings. Taking two kinds of typical DC porcelain insulators, i.e., XZP-210 and XZP-300，as test specimens and by means of test in the artificial fog chamber, the authors investigate the DC negative polarity pollution flashover performance of single link suspension insulator string (I-shape), double link suspension insulator string (II-shape) and insulator string arranged in V-shape respectively. Test results show that the suspension modes influence the pollution flashover voltage; under different pollution degrees, the DC pollution flashover voltage of V-shape insulator string is from 14.5% to 25.9% higher than that of I-shape insulator string; the DC pollution flashover voltage of II-shape insulator string is from 4.2% to 9.0% lower than that of I-shape insulator string; along with the increase of pollution degree, the increase percentage of pollution flashover voltage of V-shape arrangement and the decrease percentage of pollution flashover voltage of II-shape arrangement in comparison with I-shape arrangement are enlarged.

Key words suspension modes；artificial pollution；DC insulator string；flashover performance；high voltage and insulation engineering

DOI:

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