

Analytical Study for Leakage Current of Porcelain Insulators under Artificial Pollution Conditions*

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Abstract

The polluted insulators problem is one of the most important cases, that faces the electrical networks especially in Syrian Arab Republic because the sources of pollution expand more and more, On the other side, the electrical power supply is related to the operation of all commercial and daily sectors. The environmental pollution on the insulators generally causes general breakdowns in the electrical power supply networks of wide areas, This makes great economical losses in all sectors that are related to electrical network.

In this research, the distinct values of insulators pollutions are defined. We then find the relationship between the mentioned values and flashover voltage of polluted insulators in the laboratory. The results of the tests apply on the natural polluted insulators in the outsides. Finally, comparison measurements are made on naturally polluted insulators, and the appropriated procedures to limit the pollution effects

Keywords: high voltage, polluted porcelain insulator, leakage current.

* For the paper in Arabic see pages (63-81)

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