Abstract:

Initiating, the equal-area criterion by Kind and the leader progression model are analyzed as insulator flashover models for overhead line insulators. For the Kind criterion a new technique to determine the simulation parameters which fits well the voltage-time curve is given. The simulated flashover values are compared to values from the literature and the leader progression model is recommended on this basis. The second part deals with travelling waves, complex superposition of those waves and the resulting maximum voltages within a GIL. The localization of the point of maximum voltage is very complex and depends on various parameters. Therefore it is recommended to segment the gas insulated transmission line into small segments of equal lengths. The result is a voltage profile over the GIL with its corresponding maximum voltage peak values. This technique is an efficient method to obtain comfortably the maximum voltages in GIL caused by the simulation set up.
Modeling Techniques for Lightning Overvoltage Analysis using the Example of Gas Insulated Transmission Lines (GIL)

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