



# Insulator Models of a Hybrid Overhead Line

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**Abstract** - This paper deals with modeling 138 kV insulators of a hybrid overhead line in terms of their breakdown characteristics under lightning overvoltages resulting from direct lightning strikes to a tower. The parameters required for applying the Integration Method are obtained based on simulations of direct strokes to the line considering realistic situations and test results. The parameters relevant to the analysis of the behavior of the medium-voltage line (spacer cable) are also presented. Comparisons between measured and calculated volt-time curves indicate the adequacy of the proposed model.

**Keywords** - *electromagnetic transients, lightning overvoltages, overhead hybrid lines, insulator modeling, critical flashover voltage, integration method.*