

## Investigation on the transient voltage in a 11 kV transformer under lightning surges

### ABSTRACT

This paper investigates the transient voltage distribution in a 11 kV layer type winding transformer under a standard 1.2/50  $\mu$ s lightning impulse. The winding parameters known as resistance (R), inductance (L) and capacitance (C) were obtained through numerical calculation which were used to simulate the lumped equivalent circuit model. The calculated and simulated voltage distributions in all the layers of HV winding were analyzed. There is a steep and linear distribution of simulated and calculated voltage.

**Keyword:** Lightning impulse; Transformer winding; Transient voltage distribution