

Lab Exercise 3: Measurements of Surge Arresters

(Laboratory F1-13, main lab)

Task:

Determine the voltage responses of three types of surge arresters (spark gap, gapped SiC arrester, MO arrester) to applied atmospheric impulse voltage $1.2/50 \mu\text{s}$ with different peak values (below, roughly equal and above the rated voltage of arrester). Recorded voltage responses for different peak voltages should be plotted into one graph for each type of arrester (3 graphs in total). Further, plot recorded voltage responses for the peak value above the rated voltage of arrester for all surge arresters into one graph. In conclusion, briefly discuss and compare the differences between recorded voltage responses of measured types of surge arresters.

Used equipment:

- RG two-stage impulse generator 200 kV, 10 kJ
- D voltage divider 200 kV (resistive-capacitive)
- OSC digital oscilloscope
- S measured surge arrester (spark gap, gapped SiC arrester, MO arrester)

Measurement circuit:

