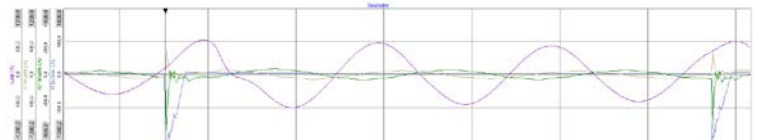


Master Thesis

Simulation of earth faults in compensated cable medium voltage level grids

Motivation



In compensated medium voltage cable grids, depending on the detuning of the Peterson coil, different fault currents occur in the case of an earth fault. The phenomenon occurs that every 3-5 periods an arc ignites at the fault location and a relatively high fault current flows. These so-called spikes cause the whole system to oscillate and can thus cause overvoltages and subsequent faults.

The aim of this work is to analyze the arc blowout and the resulting ground fault current and to verify it with existing measurement results.

Research questions

- When does the arc ignite?
- What does the transient behavior of the voltages and currents look like in different grid areas?

Procedure/Methodology/Task definition

- Simulation of the fault currents with: MATLAB®, EMT-P-RV®, etc.

Organisational Issues

Start Immediately. Language: German or English

Contact Person/Supervisor

Katrin Friedl | katrin.friedl@tugraz.at | +43 316 873 7552

