

# Paris Session 2022



## Using Real and Simulated Records to Design Transmission Line Traveling Wave-Based Fault Location Solutions

SC B5 – PS2 – 2.03  
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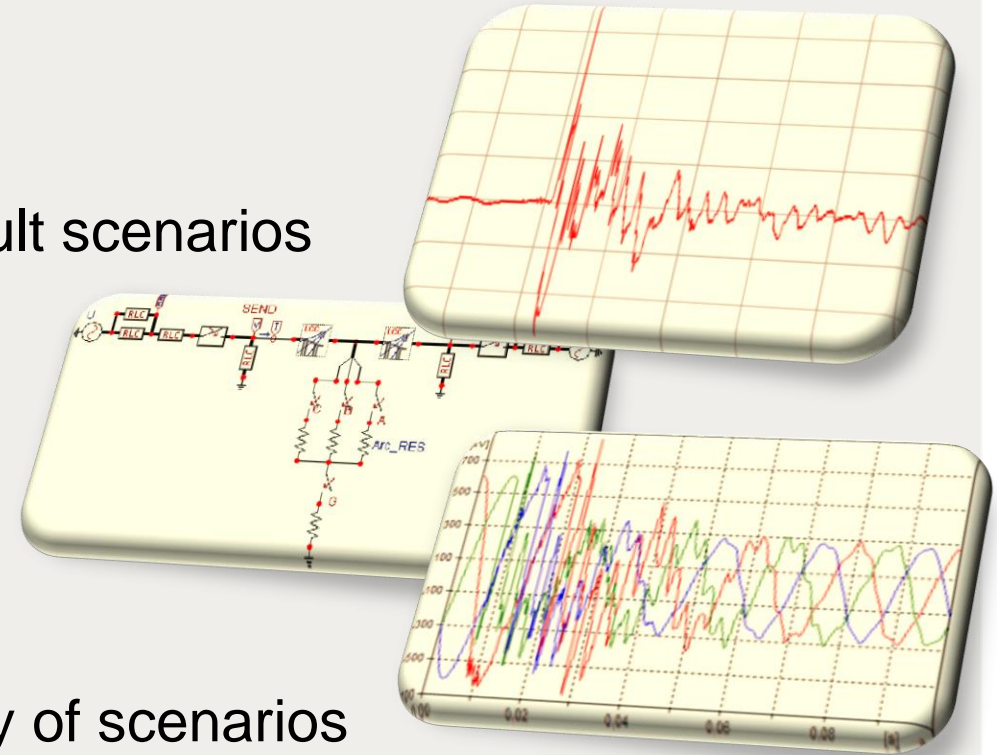
# Simulated and Real Records Complement Each Other

## *Real Fault Records*

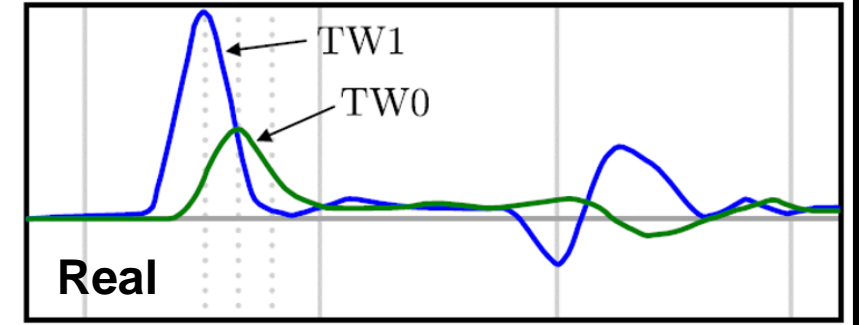
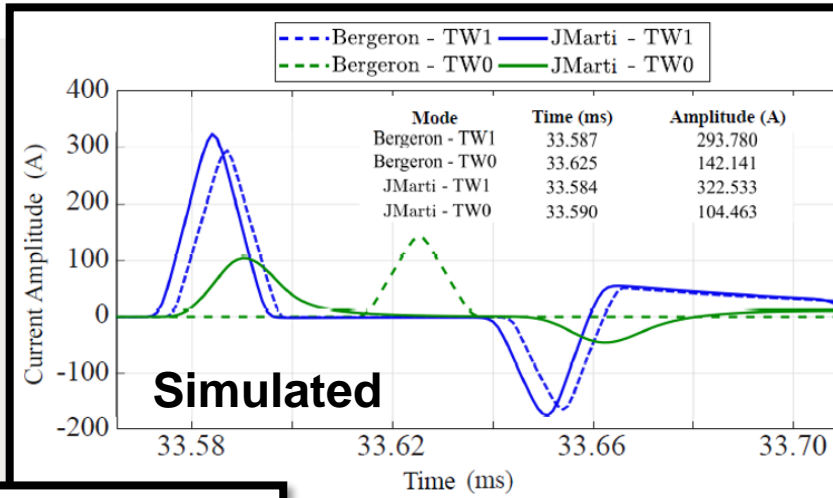
- Usually in a limited number → Little variety of fault scenarios
- TW features → Support realistic modeling
- Final fault location method validation

## *Simulated Fault Records*

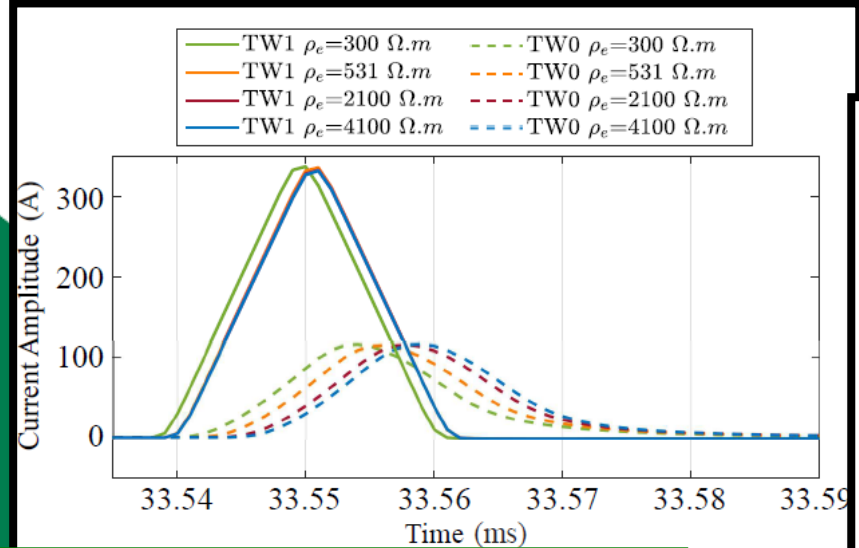
- Flexible generation of fault cases → Wide variety of scenarios
- Identification of the theoretical accuracy of the fault location method
- **Accurate modeling must be considered in EMTP → There are crucial aspects!**



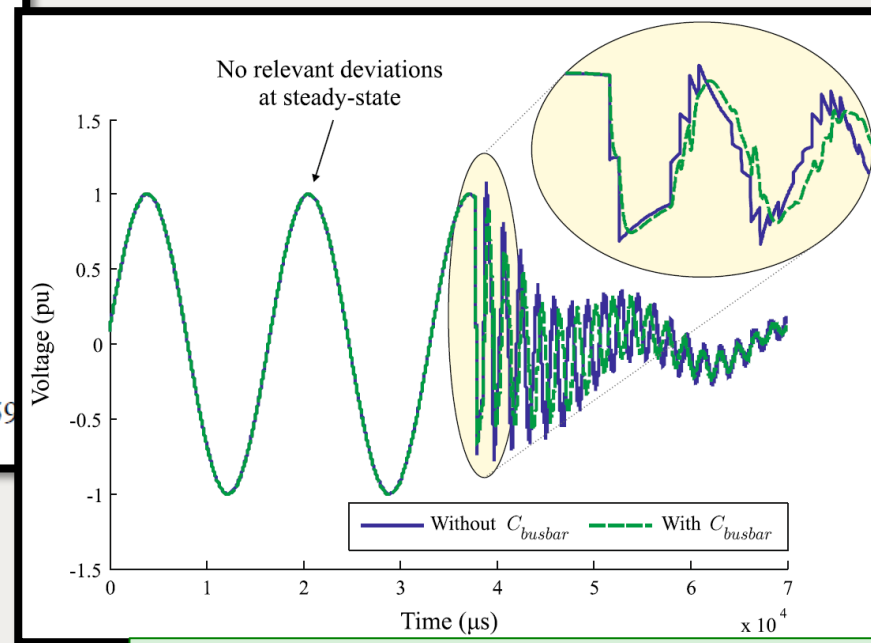
# Results



*Consider frequency-dependent parameters*  
**More accurate representation of TWs**



*Accurately represent earth resistivity*  
**Mainly if ground mode waves are analyzed**



*Accurately represent line terminations*  
**Mainly in transformer-terminated lines**

**Using both simulated and real records is recommended!**

**If it is not possible, use simulations for concept proof!**