Paris Session 2022

Dynamic Line Rating DLR and icing

Overhead Lines SC B2 – PS 2

Question 2.14: How did determine circuit sections, when applied the DLR system to the whole circuit? How can be considered the application of low-cost temperature measurement DLR sensors?

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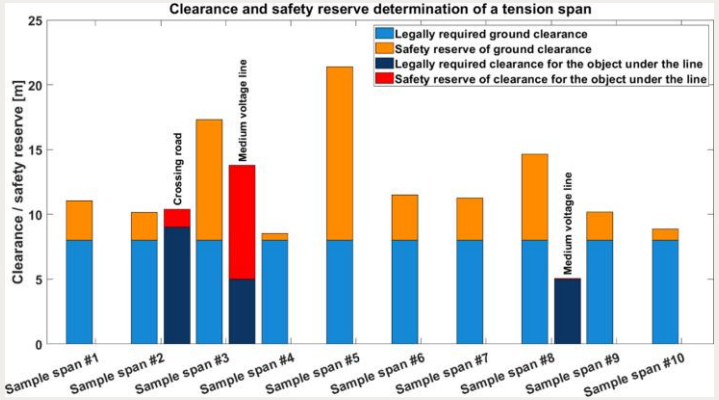
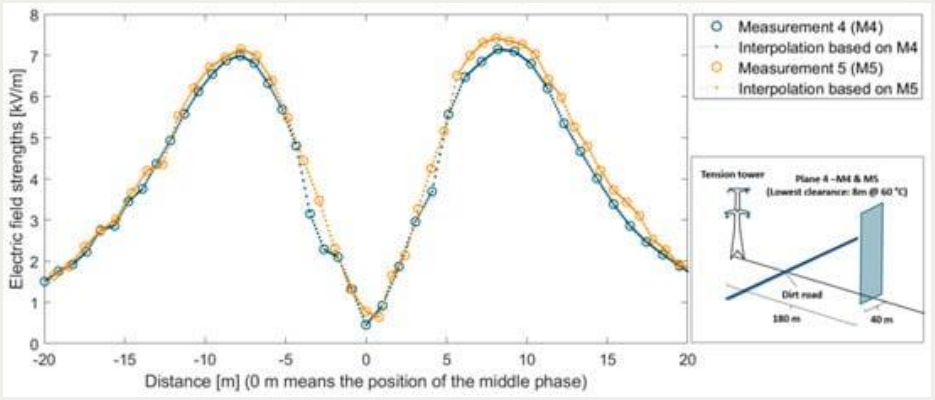
How did determine circuit sections, when applied the DLR system to the whole circuit?

- BME offers two different critical span analysis methods in order to determine circuit sections, where sensors should be installed.
  - BME's critical span identification algorithm based on sag-clearance simulation:
    - Sensor allocation according to the lowest clearance reserves.
  - BME's risk-based, distributed sensor installation concept:
    - Spatial distribution of weather parameters + electric and magnetic field distribution + annealing are considered.





How can be considered the application of low-cost temperature measurement DLR sensors?

- BME's philosophy on DLR system implementation with low-cost sensors:
  - Thermal monitoring of power lines in every tension section,
  - Longitudinal conductor temperature profile → avoiding local thermal overloads,
  - Development of „low-cost" sensor in order to reduce the capital expenditure of the system,
  - Cost-effective DLR sensor with only one functionality, namely conductor temperature measurement,
  - The monofunctionally is implemented with A-type Pt100 temperature sensor with high accuracy.