

# Paris Session 2022



## DISCONNECTOR CONDITION MONITORING AND DIAGNOSTICS

SC A3

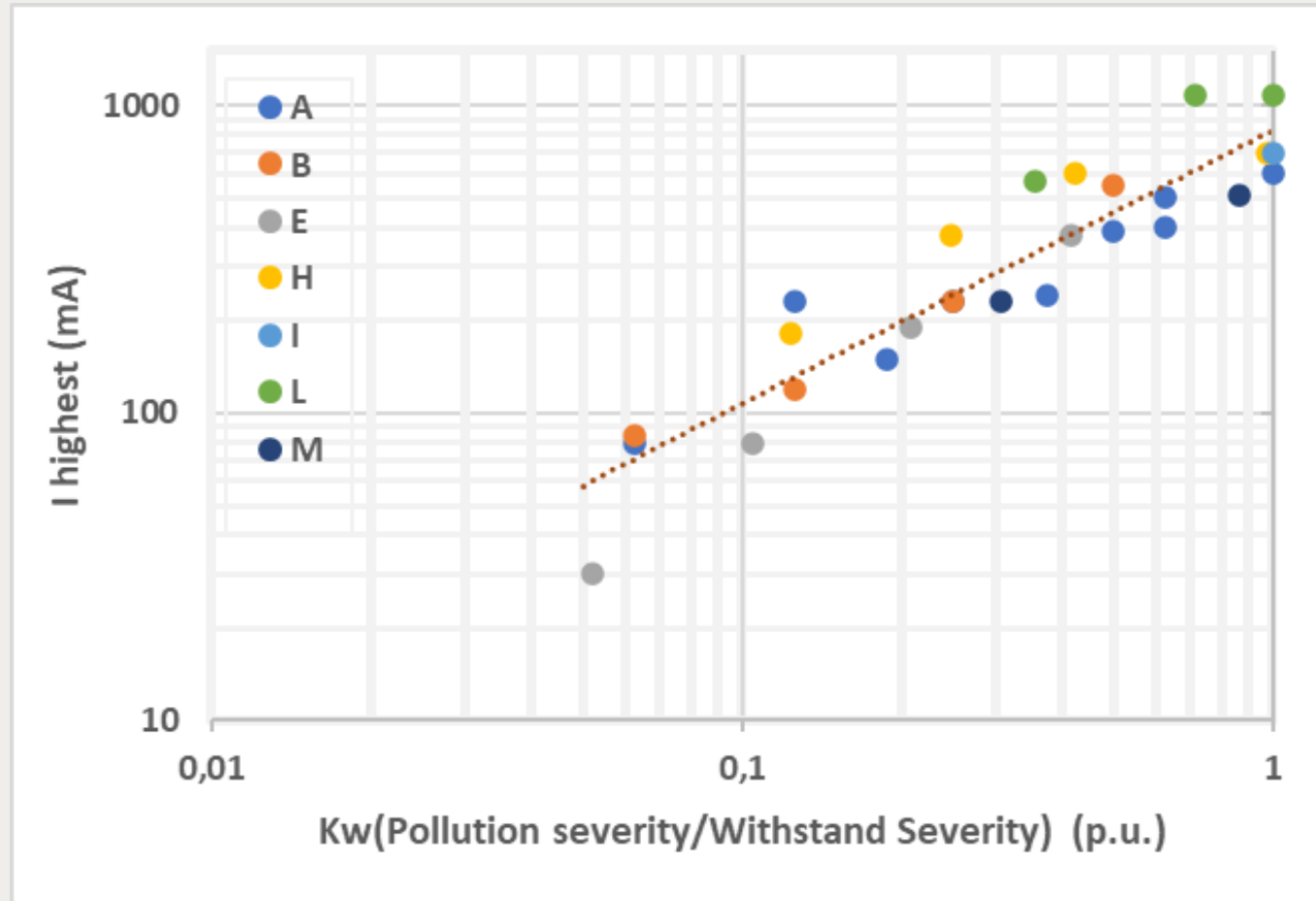
PS1 Question 06

Eros STELLA - Italy

# MONITORING AND DIAGNOSTICS

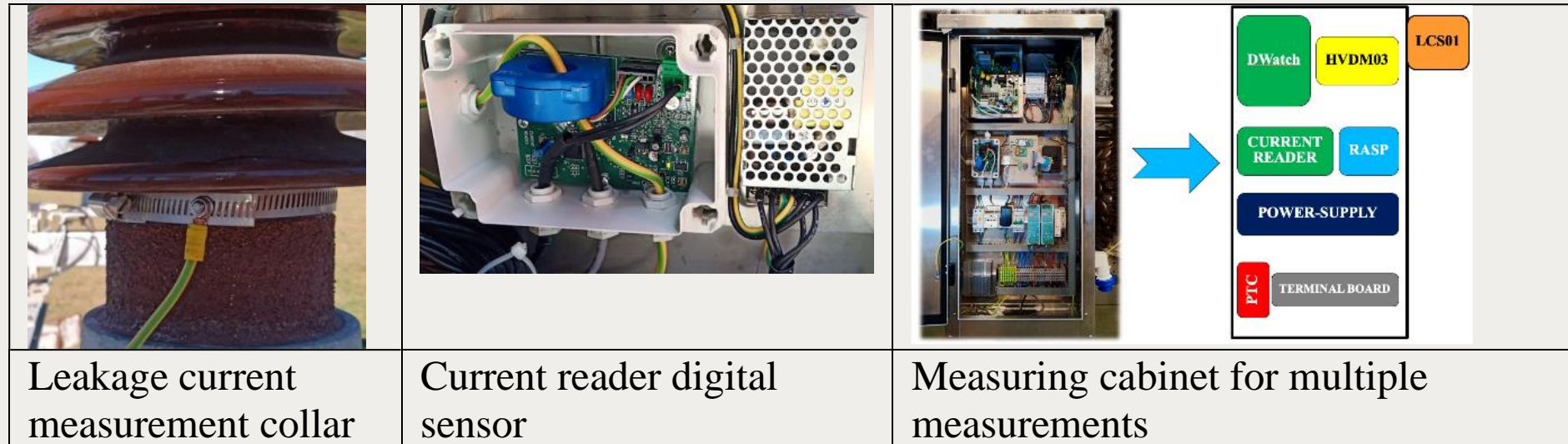
- In general, monitoring by itself does not necessarily give added value and may also cause problems, such as data misinterpretation. To improve service reliability diagnostic criteria should be developed, based on laboratory tests and field experience.
- As an example, critical conditions may derive for disconnectors in the presence of variation of the pollution conditions with respect to the design one, e.g. due to evolving climate or new pollution source. Pollution monitoring and diagnostics could be useful to verify the insulator conditions, anticipating critical conditions and setting up proper preventive maintenance (e.g. washing and cleaning).
- Diagnostic criteria have been set up for assessment of the pollution condition of ceramic insulators, based on laboratory tests on many ceramic insulators for line and station applications. The highest leakage current was measured at different severities and compared with the maximum current expectable in withstand condition, On the basis of the results a critical value of  $I_{highest}$  can be defined
- Preliminary, an attention threshold of 250 mA is proposed, associated to a pollution severity equal to 25% of the withstand severity. Long duration on site campaign are going on to optimize the threshold selection,

# Diagnostic criteria for assessing pollution conditions



# DISCONNECTOR MONITORING DIAGNOSTIC SYSTEM IMPLEMENTED

- The monitoring/diagnostic system for disconnector diagnostics has been implemented as shown below



- Beyond pollution condition, the monitoring diagnostic system may check the overall electrical and mechanical disconnector condition.

Group Discussion Meeting