A.8.1.

Transmission Power Cables Partial Discharge Detection at Damped AC Voltages

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Condition assessment of HV assets is one of the issues of asset management introduction in power utility business. In particular, due to there importance in the transmission network is the knowledge about the starting conditions during after-laying as well as the actual condition of HV power cable sections during operation after several years of service of great importance.

Unfortunately, with regard to partial discharge (PD) processes there is still a lack of advanced, sensitive and economical attractive tools suitable for non-destructive PD diagnosis on-site.

Based on utility experiences and laboratory investigations as obtained for PD diagnosis of distribution power cables using damped AC voltages a complete new method of PD detection and localization for transmission power cables has been developed recently.

In this contribution principals of the generation of damped AC voltage up to 220 kV as well as aspects of sensitive PD detection and location are discussed here.