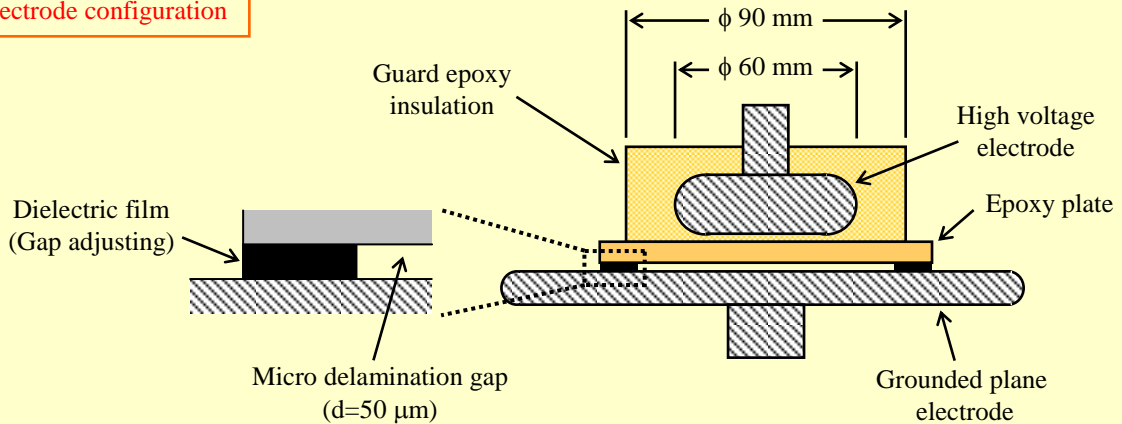


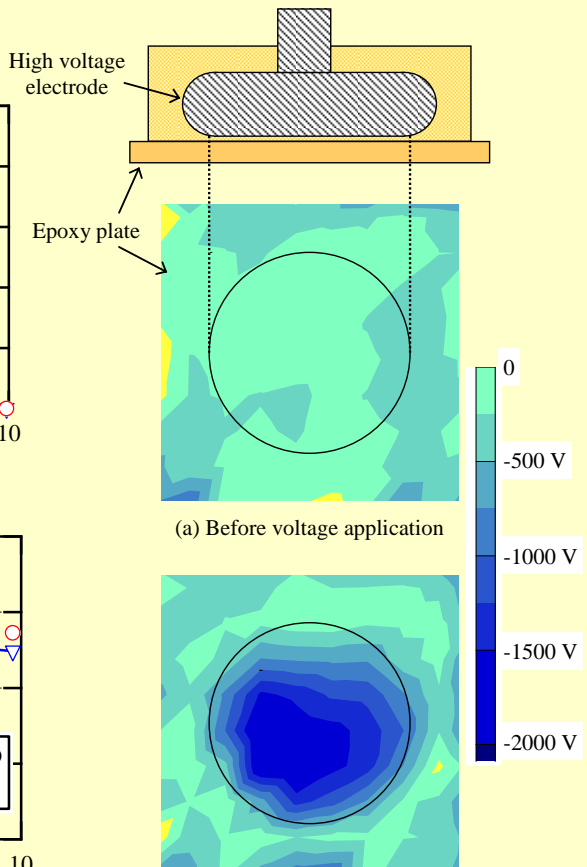
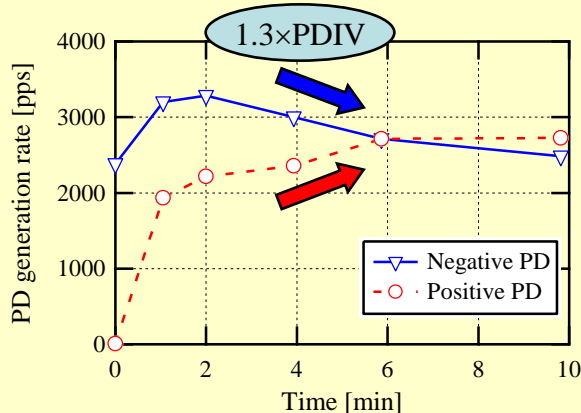
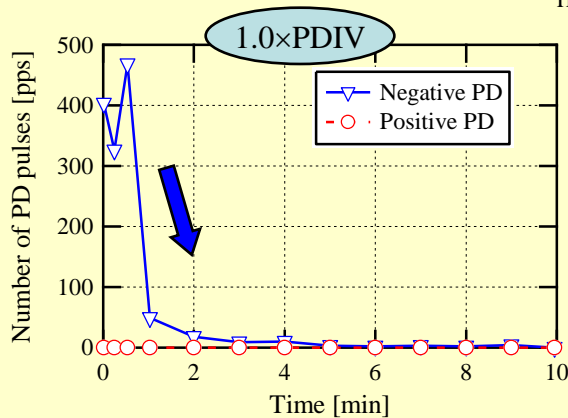
Partial Discharge and Associated Mechanisms for Micro for Micro Gap Delamination at GIS Spacer

Abstract: Partial Discharge (PD) measurements are very promising for insulation condition monitoring in Gas Insulated Switchgears (GISs). However, for accurate PD detection and diagnosis, there is a need for better understanding of physical mechanisms behind PD activity. Accordingly, the PD characteristics and associated mechanisms for electrode/epoxy delamination of GIS spacers have been investigated as one of the severest defects in GIS. The most important mechanism affecting PD activity at delamination is the surface charge accumulation on the epoxy surface.

Electrode configuration



Effects of charge accumulation on PD activity



(b) After 10 minutes of voltage application ($V_a = 1.3 \times \text{PDIV}$)