

## **Detection of partial discharge acoustic emission in power transformer**

### **Abstract**

Partial discharge is one the most important factor that leads to deterioration and failure of the power transformer transformer. Acoustic emission detection is effective method to evaluate the health index of the power transformer using acoustic emission (AE) sensors for partial discharge (PD) measurement is considered as one of the most promising techniques to detect and localize PD activities inside the transformer tank. On the other hand, AE waves suffer from high attenuation and reflections while traveling from the PD source to the AE sensor. The modeling of the AE wave can help to understand the behavior of the AE PD signal during its travel. In this paper, the AE PD signal is assumed to be composed of different frequencies. This work aims to investigate the influence of the frequency value on the attenuation and arrival time of the acoustic wave.