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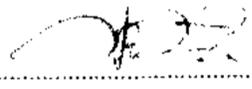
KEY WORD:

PARTIAL DISCHARGE / LOCATING SYSTEM / HIGH VOLTAGE / CABLE

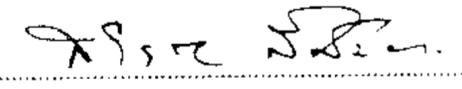
WICHAI WATTANASOPON : A PARTIAL DISCHARGE LOCATING SYSTEM FOR HIGH VOLTAGE CABLE. THESIS ADVISOR : ASSO. PROF. SAMRUAY SANGKASAAD, Ph.D. THESIS COADVISOR KOMSON PETCHARAKS, Ph.D. 81 pp. ISBN 974-636-730-7.

This Thesis presents the development, design and construction of a wide band partial discharge locating system, for detecting the location of partial discharge (PD) in a high voltage cable in accordance with IEC standard. This partial discharge locating system was developed on the basis of the partial discharge detector for high voltage equipment. The measuring system was a straight method and was basically designed to detect magnitude of PD. If the PD magnitude is higher than a specified value, the locating function will be operated. The detector has frequency band of 30 to 400 kHz for PD magnitude detection and 30 kHz to 5 MHz for PD locating system. To detect the location of PD in an extremely low characteristic impedance cable, e.g. 10 ohms, this detector still has a sensitivity of better than 5 pC when using a coupling capacitor of 10 nF or higher. The detector was designed to have a special performance as a high order band pass filter for suppressing noise at radio frequency range and high order harmonics. Therefore the detector can be used to measure PD at low characteristic impedance. The "Time Window" method is applied for eliminating the pulse interference by masking out main-synchronized interference signals. The PD locating detector is easily to operate. Measurement can be performed in a room without shielding when the environmental interference is not too high.

ภาควิชา.....วิศวกรรมไฟฟ้า

ลายมือชื่อนิสิต..... 

สาขาวิชา.....วิศวกรรมไฟฟ้า

ลายมือชื่ออาจารย์ที่ปรึกษา..... 

ปีการศึกษา..... 2539

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม..... 