ABSTRAK

Kegagalan isolasi merupakan suatu keadaan dimana bahan isolasi tidak mampu lagi memisahkan dua tegangan yang berbeda sehingga terjadi hubung singkat. Pada Tugas Akhir ini dirancang suatu transformator arus untuk mendeteksi arus lebih jika terjadi kegagalan isolasi. Transformator arus dikalibrasi dengan sistem pengukuran arus pada isolator. Lalu didapatkan grafik kalibrasi arus yang bersifat linear dimana arus akan naik pada setiap kenaikan tegangan. Berdasarkan pengukuran dan analisa data, diperoleh bahwa arus pada sampel (isolator porselen) bersifat linear, jika tegangan naik maka arus juga akan naik, namun perbandingan antara tegangan dan arus semakin kecil setiap penambahan tegangan. Dengan rata-rata beda fasa adalah 58^0 dimana arus mendahului tegangan, maka sistem pengukuran ini bersifat kapasitif.

Kata Kunci : Isolator Porselen, Transformator Arus, Arus, Beda Fasa

ABSTRACT

Insulation failure is a situation where insulation material no longer able to separate the two different voltage so that teh short circuit occurs. In this thesis was designed for detecting over current at current transformer if failure of insulation. A current transformer with a current measuring system on the insolator is calibrated. Then the current calibration graph obtained is linear where current will increases on each addition of voltages. Based on the measurement and analysis of data obtained current on a sample (porcelain insulator) is linear. If the voltage increases, the current also increases, but the comparison between voltage and current is getting smaller each addition of voltage. With an average difference of phase is 58^0 and the current leads the voltage, then these measurement system is a capacitive system.

Keywords: Porcelain insulators, Current Transformers, Current, Phase