

ABSTRACT

Electrical Impedance Tomography (EIT) is a non-destructive test in tomography. EIT is a method to obtain an information from the physical internal object through the surface. The method that use in this studi is determintaion of resistivity distribution object by using magnetic field induction or know as Induced Current Electical tomography (ICEIT). A homogen magnetic filed distribution can produce a more evenly distributed induction current and can reach all of the object field so the detection against object anomaly and image reconstruction could be better. Therefore, the goals of this study is to get a coil configuration that can produce the best magnetic field distribution. This study use three different shape of coil that is hexagonal, squere, and circle to find a homogeneity value with an experiment. The result is that object with 8x8 size is better then object with 10x10 size, and the squere coil is the best from the three coil that used in this study because the it had the biggest homogeneity value that is 0.66458 and it had an image which approached homogeneity.

Keywords : *induced current, coil configuration, coil form, homogeneity of magnetic field.*