Penghitungan induktansi diri untuk satu lilitan koil berdiameter besar = Inductance calculation for a large single turn of coil

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Abstrak

The aim of the project is to build a Matlab programming to calculate the inductance in a large singie iurn of coil with the current flow I. The reSLIlt from the program will be compared to the result from the laboratory experiment and the calculation by using an equation to provide an understanding of electricity and magnetism. The importance of the project is to give student a better understanding of calculating magnetic field density, flux and inductance calculation of a large conductor in a circular loop with current flow ldl. Magnetic fields, flux and inductance are non detectable by our eye, but we can calculate and measure its value. This project can help the student to understand the important principles and the implementation of inductance through the experiment from the Lab. Students can have a better conception of magnetic field intensity, flux and inductance phenomena and can give a better understanding in the related topics. The user of this program has to be able to specify the position of the conductor, the radius, and magnitude of the current flowing through it. With the ability to modify the parameters, student will be able to compare different radius and current value, test their hypotheses with the experiment in the laboratory and understand the subject.