

Question 7

Q: How to set a multi-turn coil in the magnetic analysis?

(Magnetic analysis/Turn)

A: In the body attribute dialog box, go to the [Current] tab and specify the desired current, turns, and the loop coil direction vectors. Please note that if a loop coil is applied, the conductor that flows current can not be set as [Yes] for the induced current. In the harmonic analysis, eddy currents are taken into account, but the specific shape of winding wires is not taken into account. If a current of 1 [A] and turns of 10 [Turn] are specified, a total current of 10 [ATurn] flows through the coil. Eddy currents flow across the entire coil without passing through each winding wire. Therefore, the resultant current density and magnetic field distributions are different from the actual conditions.

Please refer to Example 6 of the magnetic analysis on the Femtet help menu below for a loop coil setting.

Home>Example>Magnetic Analysis (Gauss, Static Analysis/Harmonic Analysis)>Example 6: Magnetic Field Created by Electromagnet.