## 15ST131   Method for Forming a Magnetic Field of Arbitrary Shape from an Established Template

Josep M. Torrents[134], Pablo Juan-García[135], Miguel Á. Sánchez-Moragues[136]

A strategy to design a particular form of magnetic field along an axis from a coaxial inductor is described. The procedure is illustrated with the design of a constant magnetic field inside a cubic inductor. It validates the goodness of the method by comparing the results with all possible combinations of inductance within a limited set of solutions. Keywords: Magnetic field, magnetic sensor, Helmholtz coils.
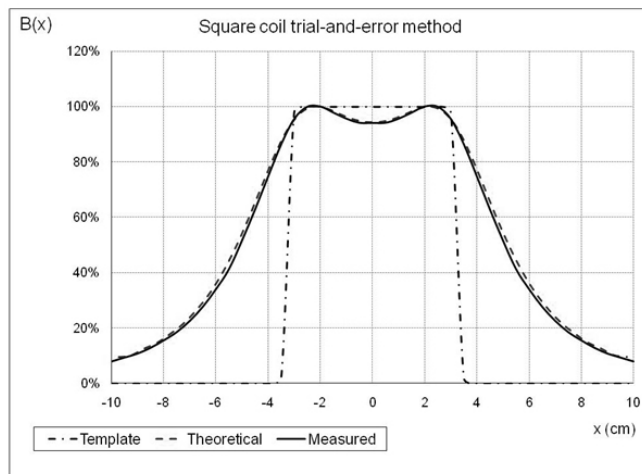

Comparison between theoretical values and measurements of magnetic field on the axis of the prismatic 6 cm side inductor designed with trial-and-error method.

15ST144   Modeling and Simulation of a Wheatstone bridge Pressure Sensor in High Temperature with VHDL-AMS

Sahbi Baccar[49], Timothée Levi[49], Dominique Dallet[49], François Barbara[137]

This paper presents a model of a Wheatstone bridge sensor in VHDL-AMS. This model is useful to take into account the temperature effect on the sensor accuracy. The model is developed on the basis of a resistor model. Simulations are performed for three different combinations of parameters values. They confirm the resistors mismatch effect on the sensor accuracy in high temperature (HT).

Keywords: Wheatstone bridge, sensor, resistance, mismatch, high temperature, VHDL-AMS
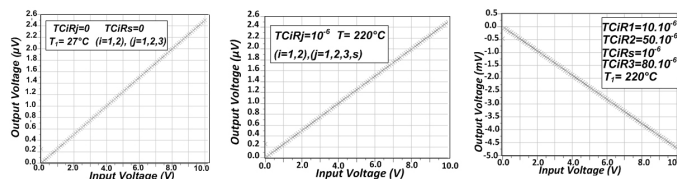
Evolution of Vout as function of Vin for different parameters combination of T, TC1Ri and TC2Ri