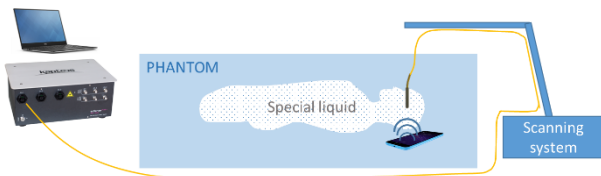


Context

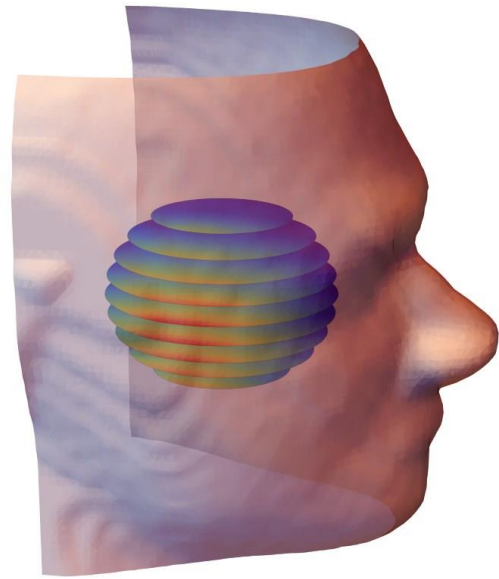
The exposition of people to electromagnetic fields is an historical concern. The electromagnetic fields are issued by a wide variety of systems mainly to transport digital data or energy.

The emitted electrical fields have a very broad frequency range (from kHz to GHz).

The target is to perform measurements in accordance with standards requiring in-situ electric field in a biological medium.



In the market of mobile phone, the expected measurements are expressed in W/kg (the lowest, the better).



Experimental E-field mapping inside a phantom

Existing technical E-field measurement

There are 2 different technologies available on the market today:

- To measure the elevation of temperature inside the phantom in various places
- To measure the electric field based on antenna probes inside the phantom in various places

Targeted markets

Any manufacturers producing systems emitting electrical fields to transport data or energy:

- Research
- Medical
- Mobile phones
- Antennas
- Communication protocols (Wifi, Bluetooth, RFID...)
- Wireless energy charging systems
- Induction furnaces
- Transport of energy

Proposed solution by Kapteos

The electro-optic solution presents the best possible measurement system thanks to:

- A non-perturbative measurement (no metal part)
- A very compact design (5 mm * 35 mm)
- A very small spatial resolution (< 1 mm)
- An ultra-wide band frequency
- An operating temperature from 0 to +50°C for the probe
- The vector measurement of the E- field with excellent rejection ratio of an axis of the field to another (> 50 dB). The measured information is very comprehensive and accurate.

Customer advantages of using Kapteos solution

One system that perfectly meets the standards in place (for frequencies from 100kHz to 40GHz). It allows the measurement of a field vector (amplitude, phase, spectrum, vector direction).

Kapteos references

- Several publications with the XLIM research institute (France)
- Tübingen Clinic (Germany).
- Infantrymen exposure to electric fields from military communication antennas (France).