Characterization of Impedance and Current Flow in the Human Body as a Function of Connectedness to Earth Ground

Stephen Elliott – President & Life Scientist, COHERENCE
Original Research Interest

- Determine if humans and Earth (ground) are electrically “involved”.
  
  (Does the human body “desire” connectedness with Earth?)

- If so, to what benefit?

- Characterize the involvement...
Body Impedance & Current Flow Change Dramatically With Connectedness To Earth Ground.

Summary

Method

1. Resistance value is set.
2. “Open” voltage is recorded.
3. Participant lies on conductive surface.
4. Voltage across resistance is measured.
5. Open voltage is subtracted from participant value to eliminate environmental induction.
6. From these measurements the following are derived
   a. Total current
   b. Total impedance, body impedance
   c. Power

Human subject lies on conductive surface

Fine copper mesh (4 x 6 feet) on surface that is isolated from ground

Dedicated 8ft ground rod in close proximity – heavy gauge wire.

Agilent 3458A Ultra Performance Multimeter

Variable resistor

GPIB

PC

Excel

Logs resistance and voltage
Current & Power Curves

- Current if linear
  - (Amps)
- Power if linear
  - (Watts)
- Current as observed
  - (Amps)
- Power as observed
  - (Watts)
Resistance of R1
(Ohms)

Voltage across R1
(Volts)

Current through R1
(Amps)

Power across R1
(Watts)

10 ohms
190
1000

peaks at 190 ohms
9µA

peaks 1000 ohms
3.6mV

peaks at 500 ohms
22nW

10K ohms

10K
Body Impedance As A Function of Resistance To Ground

Minimum Body Impedance And Maximum Current Occurs When Resistance To Ground Is ~190 Ohms

~34X Reduction In 190 ohms

The Body Has A Relatively Flat Response To Resistance Values Between 60 and 1000 Ohms
Body impedance/current flow (or energy production) can be modulated by changing electrical connectedness to Earth.

You can feel it!

The range where current is maximized is between 60 and 1000 ohms and peaks at ~190 ohms.

Why this range? Vertebrate biology?

Lowering body impedance allows us to see electrical activity that is otherwise not visible.

Is having less impedance and more current flow in the body desirable?

I have some thoughts on this.....

Does modulating impedance modify other biometrics? (work in progress)

What does the spectral analysis look like?
Bio-current of Breathing

- **Continuous gradual increase**
- **Rapid rise**
- **Measurement begins**

Biocurrent (Microamps)

Time (Minutes)
Body impedance/current flow (or energy production) can be modulated by changing electrical connectedness to Earth.

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What does the spectral analysis look like?
One Last Word…

If you are compelled to try this, drive a dedicated ground rod and don’t use the “AC” ground.

Second, for safety, when in contact with ground, avoid touching other AC appliances.
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<th>Value of R1</th>
<th>Surface Volts AC</th>
<th>Body On Surface Volts AC</th>
<th>Delta Volts AC</th>
<th>Current Amps</th>
<th>Power (R1) Watts</th>
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The Data

Impedance of meter
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Thank You!