

Sample BioGeometry® Environmental Energy-Balancing Research:

Biological Stress Reduction in an Automobile Environment

There are increased environmental stress factors within a modern car, especially with regards to electro-magnetic stress from the extensive electrical system (engine, dashboard, seat motors...etc) inside the metal body of the car. The purpose of this experiment is to test whether BioGeometry shapes placed in an idling car reduce the driver’s physiological stress markers.

Subject:

Mr. Rami Serry – Amateur racing driver

Physiological Measurements:

Eng. Hatem Khalil,

Medical Supervision & Interpretation:

Dr. Ramez R. Moustafa, M.D., Ph.D., MCRP
Consultant Neurologist

Featured On:

TedxCairo Talks
[http://www.youtube.com/watch?v=_3-wEVNHENg]

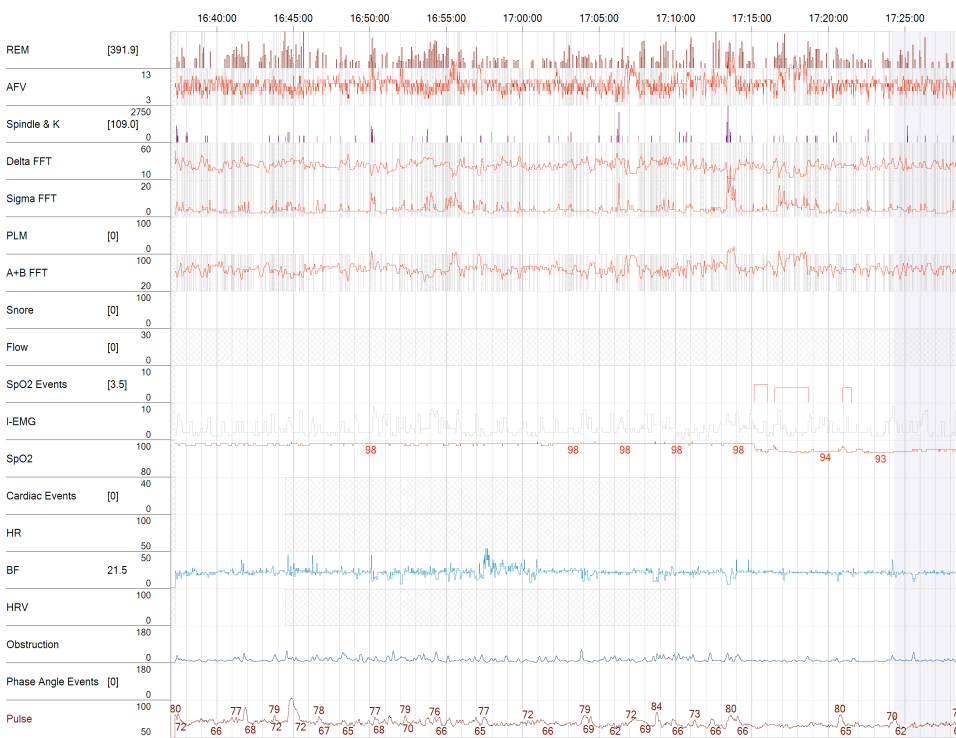
BioGeometry Solution Used:

BioGeometry Home Energy-Balancing Cube

Experimental Design:

- Double blind (subject & observer)
- Block design experiment (Five sets of 4 min. blocks; 8 x 30s epochs per block)
- Neutral measurement every third block of each set.

Summary of Analysis Screen Showing Entire Experimental Recording:



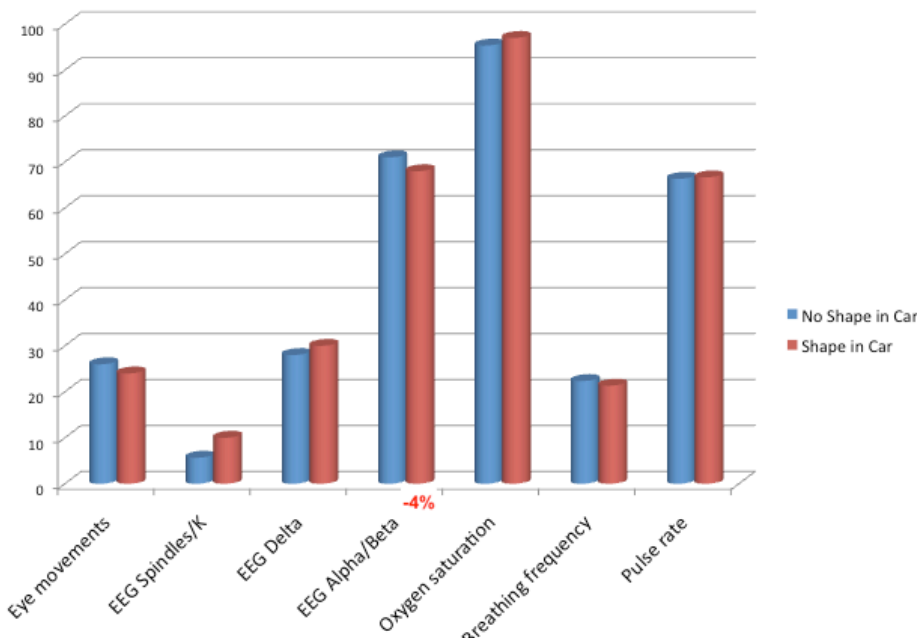
Polygraphic Physiologic Recording:

- EEG (frontal / central/ occipital montage)
- ECG (Lead II)
- EMG (corrugator / masseter)
- EOG (electro-oculogram)
- Nasal airflow
- Respiratory Effort

Statistical Analysis (Parameters / Variables):

- Blink / eye movements rate
- Average EEG amplitude per epoch
- Average EEG frequency per epoch
- Alpha / beta /theta density
- Masseter / corrugator EMG activity
- Average respiratory rate per epoch
- Respiratory rate regulatory
- Heart rate per epoch
- Heart rate variability, tachycardia and bradycardia events per block

Results:



Brainwaves: Increase of Delta indicating relaxation and decrease in alpha/Beta indicating less excitation. Decrease in eye movement and breathing frequency with increased oxygen saturation indicate less stress

Results (cont'd):

Higher blood oxygen saturation with BioGeometry shape:
(average 97% vs. 95.3%) = **+2.5%**

Lower breathing frequency with BioGeometry shape:
(21/min vs. 22/min) = **-5%**

Less eye movements/distractibility with BioGeometry shape:
(24 vs. 26) = **-4%**

More delta and spindle activity and less alpha and beta activity with BioGeometry shape (may indicate more restful brain activity)

Experiment Photos:



*BioGeometry Home
Energy-Balancing Cube*