Brain Electrical Tomography Viewer (BET Viewer)

It is a system designed for evaluating the Brain Electrical Tomography with possibilities and tools oriented to extract a full understanding of this new functional tomography.

What is Brain Electrical Tomography ?
Brain electrical tomography is obtained trough integration between functional information provided by EEG and anatomical information given by structural tomographies like MRI. Brain electrical tomography makes possible spatial localization in the brain of the sources of different physiological processes, opening in this way new paths for studying patologies like epilepsy as well as other brain activation processes provoked by cognitive processing.

For obtaining brain electrical tomography the so called EEG inverse problem must be solved. This is the problem of estimating the localization of the generators of the electric activity of the brain starting from the measurements of the voltages in the scalp. Applying modern calculation techniques it is possible to determine the distributions of cortical currents that generate the recorded activity at the scalp. The solution to this problem is represented by functional images in BET Viewer.

BET Viewer is a 32 bits full Windows compliant application with all the advantages provided by the Windows user interface. At the same time has a open architecture allowing to be configured according to different user needs depending on the image characteristics: segmentation masks, grids, etc.

In order to facilitate visual interpretation, visualization in 2D can be carried out in three different ways: orthogonal

planes, all slices of a given plane and the maximum intensity projection. There are also 6 different fusion modes for representing the merging of the electrical information with the anatomical one. It is also possible to scale the tomographic solution with 7 different methods as well as the brightness/contrast balance in the anatomical image. Different color palettes are available and the user can edit and create them. A zoom-in/out is available too as well as a command for movie generation in standard AVI Windows format.

BET Viewer allows you to enter to the 3D world enabling brain visualization from any angle and depth. In order to carry out this task, several commands are included for setting rotation angles, lighting conditions, visibility, box cuts, etc. The electrode positions used in the EEG recording can be also plotted in 3D. Spatial movies can be generated also and it is possible to create specific user's movies besides the predefined ones given by the system.

Other features
- Tomography values and coordinates reporting in two different coordinate systems (BET Viewer own - - coordinate system) and Talairach (if image aligned in that space)
- Optional superposition of anatomic atlas over slices
- Printing to the highest possible resolution including print previews.
- Contextual help system

Fuente:
http://www.neuronicsa.com/modulos/producto/betviewer.htm