

## Brain Products Projects

### „Long night of science - Berlin“

by Alexander Svojanovsky, General Manager

Every year, the Universities open their doors and present their current research projects to interested members of the public.

At the 9th Long night of science, math graduate Thorsten Zander and his PhyPa team demonstrated the Panda Game which uses alpha activity to control a jumping bear. Any visitor who wanted to could try out the game and propel the Panda into the sky by doing nothing other than relaxing. One innovation took the form of the Brain Products dry electrode cap which was used to record

the EEG from 3 occipital positions. Some 50 people (with a 0% failure rate) undertook the 10-minute calibration process involving several concentration/relaxation commands in order to prepare them to play the game which was controlled simply by their minds. For more information, please visit our web site or click this link to watch the YouTube video: [www.youtube.com/watch?v=y\\_uRYJzDv\\_E](http://www.youtube.com/watch?v=y_uRYJzDv_E)

## Product Development

### BrainVision RecView 1.3: Continued developed software for real time data analysis

by Pierluigi Castellone, International Sales Manager, and Anja Egger, Marketing Manager

Brain Products is proud to announce that the new BrainVision RecView 1.3 has been released and is available for download.

#### What is RecView for?

BrainVision RecView (“Recording Viewer”) is an add-on module for the BrainVision Recorder which allows monitoring the quality of the EEG recording data in real-time and provides a number of online processing filters for this purpose.

RecView can be used on the computer on which the Recorder is installed or on further computers in the network. This networking capability allows to run up to ten RecView programs simultaneously on different computers in conjunction with just one Recorder.

In addition to traditional signal processing filters such as the frequency filter or the FFT filter, RecView also provides special filters for correcting scanner and pulse artifacts for EEG data recorded in a MRI scanner, by using the same history tree concept already implemented in BrainVision Analyzer.

BrainVision RecView is widely used in the EEG/fMRI co-registration to remove both the gradient and the ballistocardiogram artifact permitting experimental control during the scan. The RecView uses the Template Drift Compensation algorithm to remedy template jitter caused by imperfect synchronization between the EEG amplifier and the scanner clocks and thus it ensures an optimal data correction at any time.

Furthermore, the RecView is widely used for BCI and neurofeedback applications as its modular structure allows expanding the software by incorporating user-defined filters.

#### What is new in the RecView 1.3?

The new version was featured by a number of helpful improvements, including:

**The segmentation & averaging filters:** The newly-added filters in RecView 1.3 allow performing data segmentation by cutting out

segments of the complete data set on the basis of all or selected event-related markers. The average filter is used to average previously segmented data or frequency data.

**Improved FFT filter:** When choosing the new overlap option, the blocks (expressed as number of data points) are not processed sequentially, but are instead overlapped. This new feature optimizes RecView 1.3 for neurofeedback applications.

**LORETA filter:** The LORETA filter in RecView 1.3 allows to calculate virtual channels over „regions of interest“ (ROI’s) and to use the LORETA method to trace signals back to their sources in the various regions of the brain.

Each ROI is displayed in RecView as a virtual channel.

**Bipolar Montage:** The bipolar montage filter defines new channels which are derived from the difference in voltage between the two original channels.

**Map Filter:** The map filter is now available on frequency data as well as on continuous time data. The map shows the interpolated voltage distribution calculated in realtime over the surface of the head.

#### Miscellaneous:

- Filters can be daisy-chained to introduce branches and create extensive filter trees. In this way, for instance, it’s possible to take the output data from a MRI artifact correction and use it as the input data for a FFT filter.
- RecView allows showing impedance values.

If you have questions or are interested in evaluating this outstanding piece of software, we invite you to contact our local dealers or our sales department writing to [sales@brainproducts.com](mailto:sales@brainproducts.com)

