Original BrainMaster LZT Live Z-Score Training for Surface or sLORETA Z-Scores

BrainMaster Technologies, Inc. is unique in providing live LZT methods that provide Multivariate Proportional™ (MVP) variables for use in training. MVP variables are continuous, proportional values that are used in training in the same ways that conventional values such as absolute power, relative power, or raw coherence values have been used in the past. The key to this innovation is that the new MVP variables provide complex yet intuitively simple measurements that are field-proven in producing client results that are rapid, concise, and lasting.

Other approaches to using live Z-Scores typically produce only an “on/off” response, depending on whether one or more Z-Scores are within a range. Thus, the brain is provided with information that tells it whether or not it meets a condition but does not provide any proportional or “how much” information to the trainee. This limits the brain’s ability to learn and respond to the important EEG parameters. Also, such methods do not lend themselves to tuning the training beyond setting the target sizes. BrainMaster’s MVP methods produce new quantitative variables that are not simply “yes/no”, but provide real-time, proportional feedback that can be used for sounds, videos, games, or other feedback methods that respond to either “on/off,” “how much,” or a combination of such control variables. This provides a level of guidance that reduces the number and length of sessions necessary to see results.

Another key element of BrainMaster’s approach is the ability to dynamically change the difficulty of the training on multiple levels, in real-time without interrupting training. This is analogous to being able to adjust the throttle, choke, etc. of a vehicle while it is in motion, which is an essential element of clinical application. With the PZOK method, clinicians commonly adjust the size of the training window and also the percentage of Z-Scores which are required to be met, in order to obtain an reward. This was a non-obvious, yet critical step in the evolution of BrainMaster’s exclusive LZT technology.

Surface Z-Score Training consists of the following estimators:

- Absolute Power
- Amplitude Asymmetry
- Relative Power
- Coherence
- Power Ratios
- Phase Difference

Works with your iPad or Smart Device with BrainAvatar™ 4.0 Software!
the total state so that the brain receives global information. This value provides a consistent target that facilitates adaptive targeting. Unlike methods that require the clinician to predefine trajectories of multiple Z-Scores, so as to provide a measure of not only the state of the brain, but also its tendency for change. Any or all Z-Scores can be included in the Z-Motive calculation, which provides an instantaneous comprehensive indication of brain state and brain change, when used for neurofeedback training.

Z-Motive combines the concepts of self-regulation, dynamic training, and adaptive targeting. Unlike methods that require the clinician to predefine precisely which Z-Scores to train and within which ranges, Z-Optimal presents the brain with a comprehensive metric that reflects all EEG parameters in a single, proportional value. This value provides a consistent target that reflects all training parameters on a continuous basis, and does not depend on particular targets being “hit” or “missed.” Rather, all targets contribute to the total state so that the brain receives global information.

Z-Motive is based upon new algorithm that computes a comprehensive system metric that is based upon the positions, weights, and trajectories of multiple Z-Scores, so as to provide a measure of not only the state of the brain, but also its tendency for change. Any or all Z-Scores can be included in the Z-Motive calculation, which provides an instantaneous comprehensive indication of brain state and brain change, when used for neurofeedback training.

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