EEG Studio
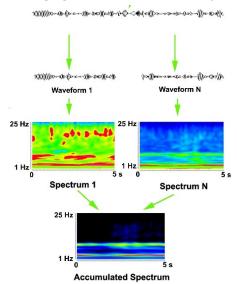
EEG Studio is a software package with new techniques for imaging functional brain activity. The neurophysiological principle of the new techniques is that EEG/MEG signals are generated by hierarchical groups of cells; low-frequency signals are generated by large groups of cells and high-frequency signals are generated by small groups of cells. The core mathematical algorithm is to spatiotemporally and spectrally decompose multi-frequency signals in EEG/MEG data to volumetrically reconstruct brain activity (cell assemble imaging, CAI). This software program also integrates multiple complementary imaging modalities (EEG, MEG, MRI and CT) in a single package and environment. By combining the latest techniques for determining magnetic and electrical activity in the brain with anatomical and functional imaging, the program provides a powerful new method for accurately reconstructing the source of such activity. The program uses the full physical anatomy from MR and CT to provide three-dimensional models of the head and brain, volumetrically delineating the site of activity. The novel functionalities make it suitable for wider applications.