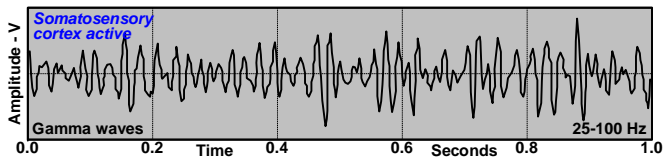
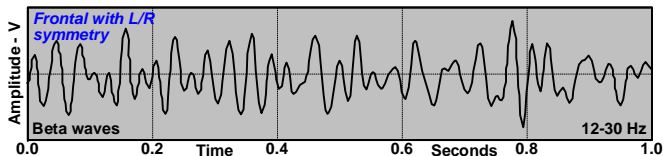


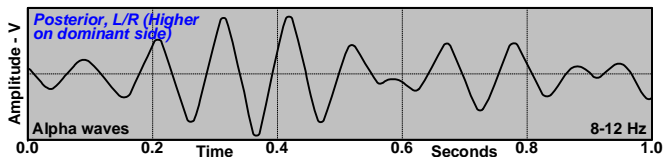
Normal activity: Apparent low amplitude is due to mixing of all signals present during wake-fullness. Separate signal groups can be separated via spectral analysis.



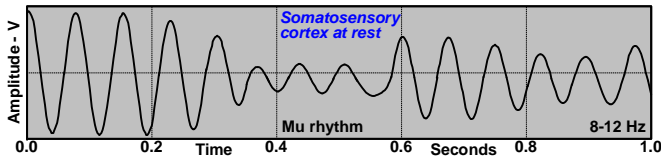
Gamma: Popular theory holds that these rhythms represent the binding together of different populations of neurons into a network for the purpose of carrying out a certain cognitive or motor function. Associated with short term memory matching of recognized objects and during sensory processing that involves different senses such as sight+sound.



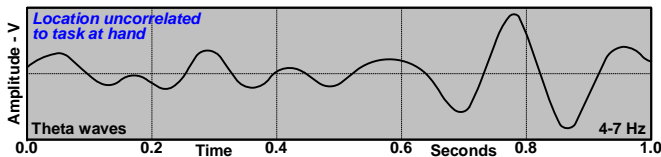
Beta: Beta waves can be split into three bands by frequency: High (18-30Hz), Beta (15-18Hz) and Low (12-15Hz) and are associated with normal waking consciousness, busy or anxious thinking and concentration.



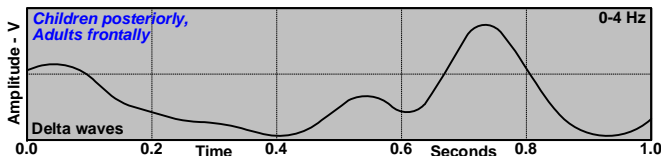
Alpha: Also called Berger's waves in honor of the founder of EEG, these waves arise from the synchronous and coherent (in phase and constructive) electrical activity of thalamic pacemaker cells and are associated with relaxed and reflecting states of mind, closing the eyes and inhibition control.



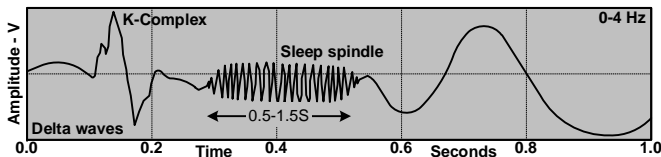
Mu rhythms: In the same band as Alpha waves, Mu rhythms are believed to reflect the electrical output of the synchronization of large portions of pyramidal neurons of the motor cortex which control hand and arm movement when inactive. Desynchronization can occur during movements by subjects as well as when viewing those movements in someone else.



Theta: Associated with drowsiness or arousal in older children and adults and with inhibition of elicited responses where a subject is actively trying to repress a response or action and found in young children in all wakeful states. "Hippocampal theta rhythms" are found in many mammals where "Cortical theta rhythms" are usually only recorded from humans.



Delta: Slowest and highest amplitude waves normally seen in adults during slow wave sleep and in babies that are both awake and asleep. Sometimes this has also been found during some continuous attention tasks. FIRDA - Frontal Intermittent Rhythmic Delta OIRDA - Occipital Intermittent Rhythmic Delta



Delta with K-complex and Sleep spindle: Sleep spindles (Sometimes called Sigma waves) along with K-complexes are defining characteristics of non-REM stage 2 sleep. Sleep spindles are thought to represent periods of processing inhibition used to keep the sleeper from waking, such as when a loud noise is heard while sleeping. Sleep spindles also occur at the onset of stage 2 sleep.