# FREQUENCY BANDS IN THE EEG

#### Delta waves

cortex thalamus suprachiasmatic nucleus



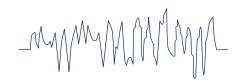
**normal**: deep sleep

pathological: brain lesion, epilepsy



#### Theta waves

\_\_sensory cortex \_\_prefrontal cortex \_\_hippocampus



normal:

drowsiness

pathological:
inattention,
day dreaming,
anxiety,
ADHD



# Alpha waves

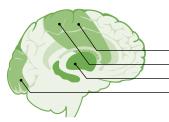
motor cortex
sensory cortex
thalamus
hippocampus



#### normal:

relaxation, meditation

pathological: depression, ADHD



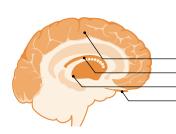
## SMR waves

motor cortex sensory cortex audio fields fields of vision



# normal:

calm motor function, mentally focused



## Beta waves

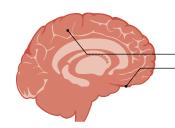
cortex basal ganglia luys body bulbus olfactorius



#### normal:

concentration, activity

pathological: compulsion, sleep disorder



## Gamma waves

all brain structures
bulbus olfactorius



### normal:

neuronal connection, consciousness, complex thoughts 0 Hz

Delta

Theta

Alpha

SMR

5 Hz

10Hz

15 🗆

20 Hz

25 Hz

Beta

25 11-

40 Hz

451

Gamma

45 Hz

50 Hz