

EEG phase synchrony

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1,2, 1,2, 3, 4, 1, 1*
1
2
3
4

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A Comparison between Executed and Imagined Movements in Phase Synchrony of EEG in humans with Stroke: A Preliminary Study

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5 (Affected hand /)
가 가 가 ,
가 Active movement 가 Passive movement,
가 Motor Imagery(MI) 가 task
EEG Phase locking
value(PLV) task
Passive movement 가 Active movement 가
motor task 375ms 가 ,
687.5ms Active movement MI 가
motor task EEG 가

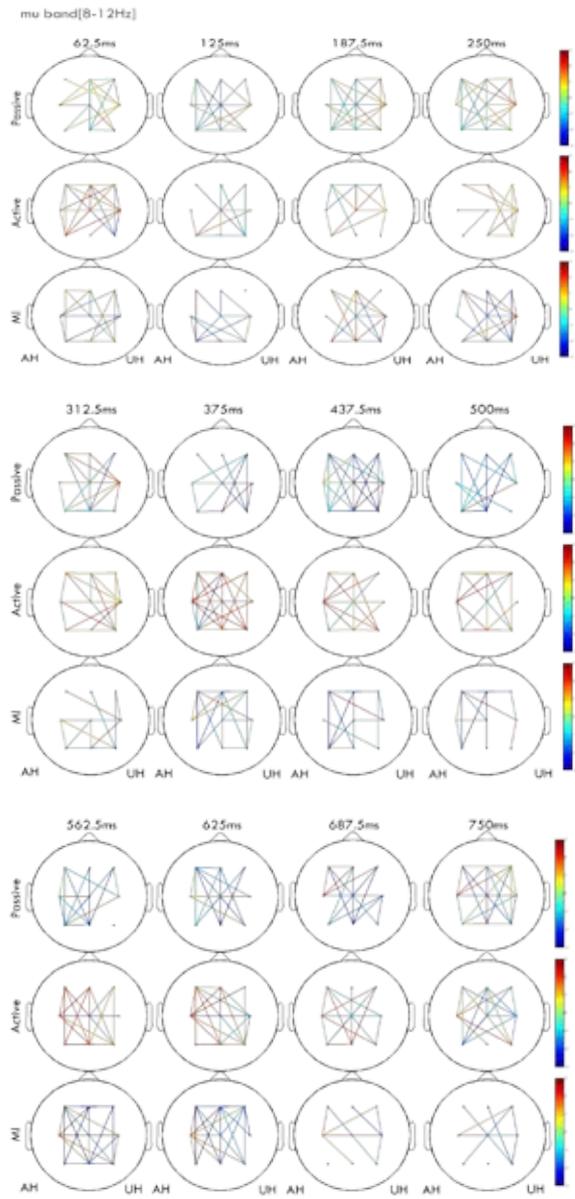
Keywords : phase synchrony, PLV, Motor intention, Movement, EEG, Stroke

1. ERD/ERS motor test score FMA 가
가 [5, 6].
, motor cortex
[1, 2].
가 , fMRI synchro
가 ny , fMRI 가 가
가 BCI 가 가
가 [3, 4]. [7].
Kai Keng Ang et al.(2010) 가 EE
affected hand MI(motor imagery) G 가
FMA(Fugl-Meyer Motor Funct
ion Assessment)
, Kaiser et al.(2012) EEG
affected hand ME(motor execution) MI task

가
 Common Average Reference(CAR)
 motor cortex C3 C4 EEG front
 al lobe parietal lobe
 F3, Fz F4, C3, Cz, C4, P3, Pz, P4 9
 (8-12Hz) EEG
 Hilbert transform PLV
 [15]. motor task
 -1~0 base line
 time window 62.5ms
 t-test(, 0.001)
 가

3.
 Active movement task
 Passive movement task,
 Motor Imagery task
 mu band[8-12Hz] motor task
 EEG
 가 (p<0.001),
 가
 Active movement Passive movement t
 ask EEG
 4 motor task 750m
 s time window 62.5ms
 Active movement Passive mo
 vement task EEG mot
 or task 가 task 가
 , 312.5ms Passive movement task
 EEG Active mo
 vement task 가
 motor task
 750ms task EEG
 Passive
 movement task AH(affected hand) UH(unaffect
 ed hand) EEG
 , Active movement task
 375~687,5ms AH EEG

trial , Active movement 375ms
 Co 가 MI task 250~312.5ms
 가 가
 687.5ms Active mo
 vement MI task EEG 가
 motor task
 MI task 가 Active movement t
 ask



(4) mu band[8-12Hz] motor task EEG

Active movement MI task EEG
 Passive movement Active movement 가
 MI task EEG
 Active movement task 가 motor task

4.
 motor task

가 .
 motor task 가
 ase synchrony motor cortex ph
 movement Passive movement task Active
 Tombari et al.(2004)
 movement task Active movement/Passive move
 가 fMRI
 [16].
 motor cortex baseline
 time window Active movement Pas
 sive movement task EEG
 t-test (p<0.01), mu band
 task 가 가 .
 가 . Chung et al.(2012)
 EEG study MI sensorimotor rhythms
 frontal and central sensorimotor
 alpha phase synchronization 가
 , Active movement MI tas
 k 가
 [17].
 motor cortex
 phase synchrony
 mu band task /
 가 , motor t
 ask 687.5ms MI task
 가 Active movement task

5.
 5
 가 motor task
 , motor task
 가
 EEG phase synchrony 가

2013 SMC-KIST
 Translational Research Program
 ; 2E24054.

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