P50 AND PHASE RESPONSE OF 40-Hz EEG

Y. Jin, S.G. Potkin, C.A. Sandman, J.V. Patterson, W.E. Bunney, Jr.

Department of Psychiatry and Human Behavior, UCI Medical Center, California 92868

Six normal subjects were tested in a modified, conditioning-testing (S1–S2) auditory EP paradigm, with 400 msec pre-stimulus EEG, to identify the principal frequency of the P50 and the phase relation among the single trials. We found that the principal frequency of P50 was about 40-Hz. Averaged amplitude of S1 was significantly greater than S2. On a single-trial base, however, there was no power difference in the 40-Hz band between S1 and S2 responses, nor between pre- and post-stimulus epochs. Compared with pre-stimulus data, the post-stimulus 40-Hz of S1 was highly synchronized in phase, while S2 responses were synchronized in a lesser degree. These results support our previous finding that the greater S2/S1 ratio in schizophrenia was primarily due to the higher phase variation in S1, which led to a dampened averaged amplitude.