

Neuroscience Letters Supplement 1 S335, 1978

DYNAMICS OF UNIT ACTIVITY OF SYNCHRONIZING AND  
DESYNCHRONIZING BRAIN STRUCTURES IN THE SLEEP-  
WAKEFULNESS CYCLE

T.W. ONIANI, D. ADAMS, P. MOLNAR, SH.D. MANJAVIDZE, L.B.  
GVETADZE and G.G. BERADZE (Beritashvili Institute of Physiology,  
Georgian Academy of Sciences, Tbilisi, USSR).

In free moving rats, the dynamics of unit activity of synchronizing and desynchronizing brain structures was studied in the sleep-wakefulness cycle. In the synchronizing structures unit activity appeared to be markedly increased in the slow wave phase of sleep, as compared with wakefulness and the paradoxical phase. In the desynchronizing structures an opposite picture was seen - their unit activity sharply increased during active wakefulness and the paradoxical phase, as compared with the slow wave phase.

The data obtained indicate that the alternation of different phases in the sleep-wakefulness cycle is effected on the basis of reciprocal relationship between the synchronizing and desynchronizing brain structures.