

## FINGER TAPPING INDUCED BRAIN ACTIVATION IS MODULATED AFTER A 60 HZ, 3000 $\mu$ T MAGNETIC FIELD EXPOSURE

Extremely Low Frequency Magnetic Fields (ELF MF, below 300 Hz) have been reported to dampen involuntary motor activity in healthy subjects. Brain electrical activity also seems to be modulated by such exposures. We have recently shown, using functional Magnetic Resonance Imaging (fMRI), that more activation was involved by a finger-tapping task after a 30 minutes exposure to a 1800  $\mu$ T, 60 Hz MF as compared to a sham condition. The aim here was to extend our results to a 1 hour exposure to a 60 Hz MF at 3000  $\mu$ T. Based on our pilot results, we expected a higher task-induced activation associated with MF exposure in the contralateral S1 and in the ipsilateral cerebellum (anterior lobe). Functional brain images were collected during a finger tapping task at natural rhythm completed before and after an hour of rest, which may (real; n=9) or may not (sham; n=11) have corresponded to a MF exposure period. Functional images were analyzed with BrainVoyager QX2.0.8.1480. Results were consistent with our pilot work and showed an increased activation (contralateral S1 and ipsilateral cerebellum) after MF exposure as compared to sham. We are speculating that MF exposure might induce plastic changes detectable using fMRI.