High resolution interpretation of amplified, remote action potential aggregates at distances of greater than twelve inches

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Abstract — Confirmation of meaningful interpretation of action potential aggregates and their cognitive correlates collected remotely. Previous work identified such signals collected through direct, superdermal transduction. The present paper confirms detection of these signals using specialized collection antenna at distances of greater than twelve inches, and outlines methodology for meaningful interpretation of such signals post-amplification and filtering as they relate to cognitive correlates. It is expected that these discoveries may have far reaching implications, and proper study is necessary so that the appropriate countermeasures can be taken.

Keywords* — *helical-parabolic antenna, neural cognitive signal action potential aggregation, synaptic amplification, remote listening

1. Synthesis of disparate fields

1.1. Superdermal conduction of action potential aggregates

It has been recently established that a meaningful correlation between self-reported cognitive state changes and collection of superdermal action potential aggregates can be established, at least so far as amplitude component is concerned. [1] Using standard Laplacian transformation described by $phi(1+A) \neq \phi(1+\Delta A)$ signals collected using Schnizoidian transducer on 3 scalp locations and one sacral superdermal location were shown to correlate to the amplitude of cognitive reconfiguration by a statistically significant percentage of participants using the Morrison evaluation. [2] [3]

1.2. Analogs in cross-band reversal reception

The Schnizoidian pulse operates at a frequency which we suspected to be analogous to the cross-band interference described by Kramer. [4] Kramer's analysis of the cross-band using the Friis equation led to short-range reception at a near wavelength.

$$\frac{P_r}{P_t} = D_t D_r \left(\frac{\lambda}{4\pi d}\right)^2$$

$$ContemporaryFriisEquation \tag{1}$$

Using this approach, we expected that the Schnizoidian pulse would translate into a cross-band counterpart at greater than twelve inches, and set out to determine optimal antenna configuration for such a cross-band wave. It was known from relevant experimentation using electroencephalographs that the frequency would correspond to the quarter-wave of the related fundamental of the neural oscillation for the appropriate region of the brain. [5]

2. Present Examination

2.1. Collection

Because the desired cognitive correlates were expected to originate in the prefrontal cortex, we determined that a frequency of 8.2 khz neural oscillation would be the appropriate fundamental, according to the Kuramoto model. [6] Then using the Kramer cross-band transformation, we determined that the appropriate cross-band frequency range should be in the 7.35-7.37 Ghz range.

$$f(x) = \int_{-\infty}^{\infty} \hat{f}(\xi)\, e^{2\pi i x \xi}\, d\xi,$$

$$Transform \tag{2}$$

The Friis equation suggests that an adjusted, helical-centered parabolic collection antenna optimally tuned for the appropriate wavelengths should yield the greatest signal to noise ration for that frequency range, and we proceeded to design the antenna depicted in *Fig. 1* based on these parameters.

2.2. Amplification

Due to the dramatic ambient interference at that frequency range, a suitable low noise amplifier (LNA) is necessary for meaningful interpretation of the cross-band signal.

$$\mathrm{NF} = 10\log_{10}(F) = 10\log_{10}\left(\frac{\mathrm{SNR_{in}}}{\mathrm{SNR_{out}}}\right) = \mathrm{SNR_{in,\,dB}} - \mathrm{SNR_{out,\,dB}},$$

$$\mathrm{SNR}_i n \text{ and } SNR_o ut \text{ are in decibels (dB).} \tag{3}$$

Because of its temperature agnosticism, a Murray P2304 was selected for this task. The signal post LNA when piped into a Thompson MX9101 analog-to-digital converter resulted in a useful binary stream.

2.3. Interpretation

Once the resulting signal was analyzed using Fast Fourier Transform (FFT), a stereographic projection was obtained using the Mbius transformation.

$$f(z) = \frac{az+b}{cz+d} \tag{4}$$

All resulting data was then piped into the Swydell logic filter to establish the cognitive state labels for the derived action potential aggregates [7]. When the resultant cognitive state labels we referenced against the self-reported cognitive state identifications for the participants and the correlation was found to be significant.

3. Conclusion

These results establish that significant correlation between 7.35-7.37 Ghz cross-band signals as proxies for action potential aggregates and cognitive state change an be established, if the appropriate signal collection, amplification, and interpretation methods are used. It is unnecessary to describe the implications of this discovery in the field of neurobiology, much less personal privacy. It is our determination that this discovery must be made public so that the appropriate shielding methods can be investigated so as to counteract what we expect to be the immediate utilization of this technology both for human advancement, and unfortunately its antithesis.

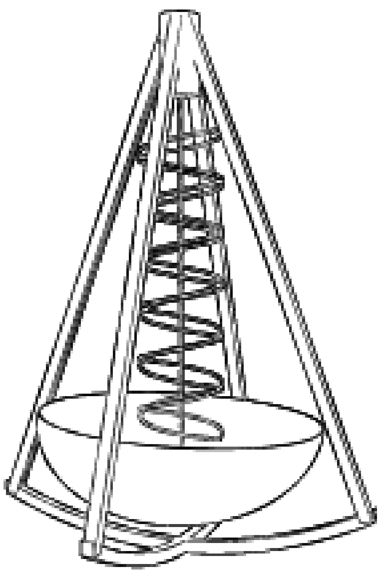

Fig. 1. Initial capture antenna configuration [20]

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...and as always, for Jean.

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