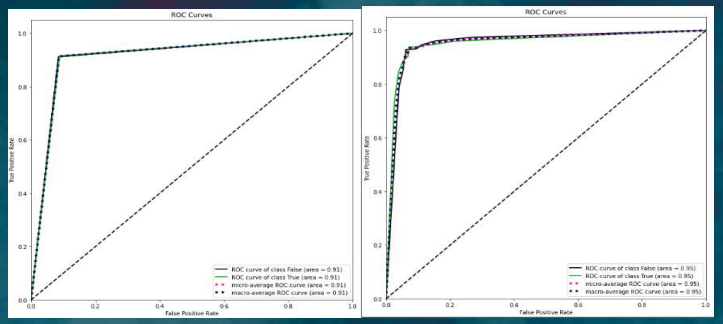
Surface electromyography (EMG) is a technique used to record the electrical activity of muscles during contraction and relaxation. This study examines the characteristics and differences of the four types of surface EMG signals.

Figler's criterion was employed to establish the significance between EMG types, with the following values obtained:

- FMD I-II = 1.86
- FMD III(a)-III(b) = 1.92
- FCP I-II = 1.90
- FCP III(a)-III(b) = 1.94
- FMax I-II = 1.89
- FMax III(a)-III(b) = 1.91

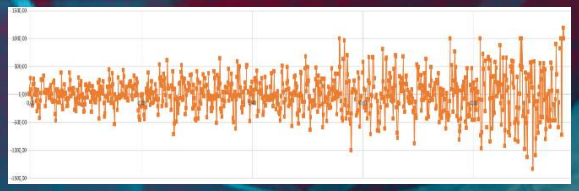
Conclusion

The study examined the four surface EMG types, using Figler's criterion to identify statistically significant parameters. Results revealed important differences in muscle activity patterns, providing valuable insights into the various EMG types.

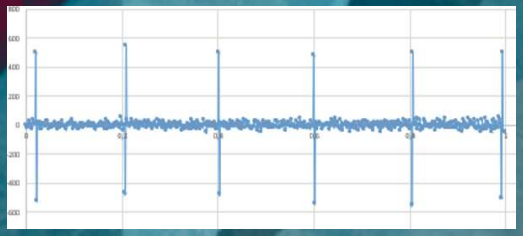


Analysis of statistically significant indicators for the 4 types of surface EMG

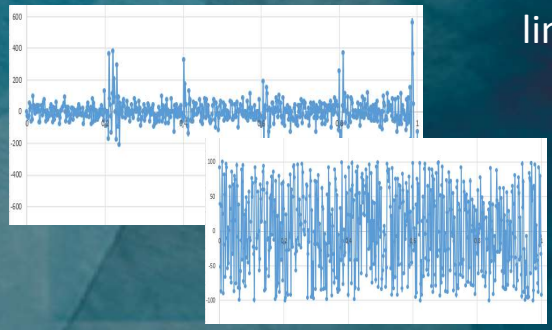
Type I surface EMG displays motor unit activity during maximal muscle contraction, with a maximum amplitude reaching 100-200 mV.



Type II surface EMG exhibits rare rhythmic activity of resting muscles. The frequency ranges from 6 to 20 Hz, and the maximum amplitude can reach 50-150 µV.



Type III surface EMG has two subtypes: A) Enhanced activity at rest; B) Rhythmic discharges during tremor.



Type IV surface EMG is characterized by complete muscle silence during attempted contraction, resulting in an isoelectric line