

# The use of single bipolar scalp derivation for the detection of ictal events during long-term EEG monitoring

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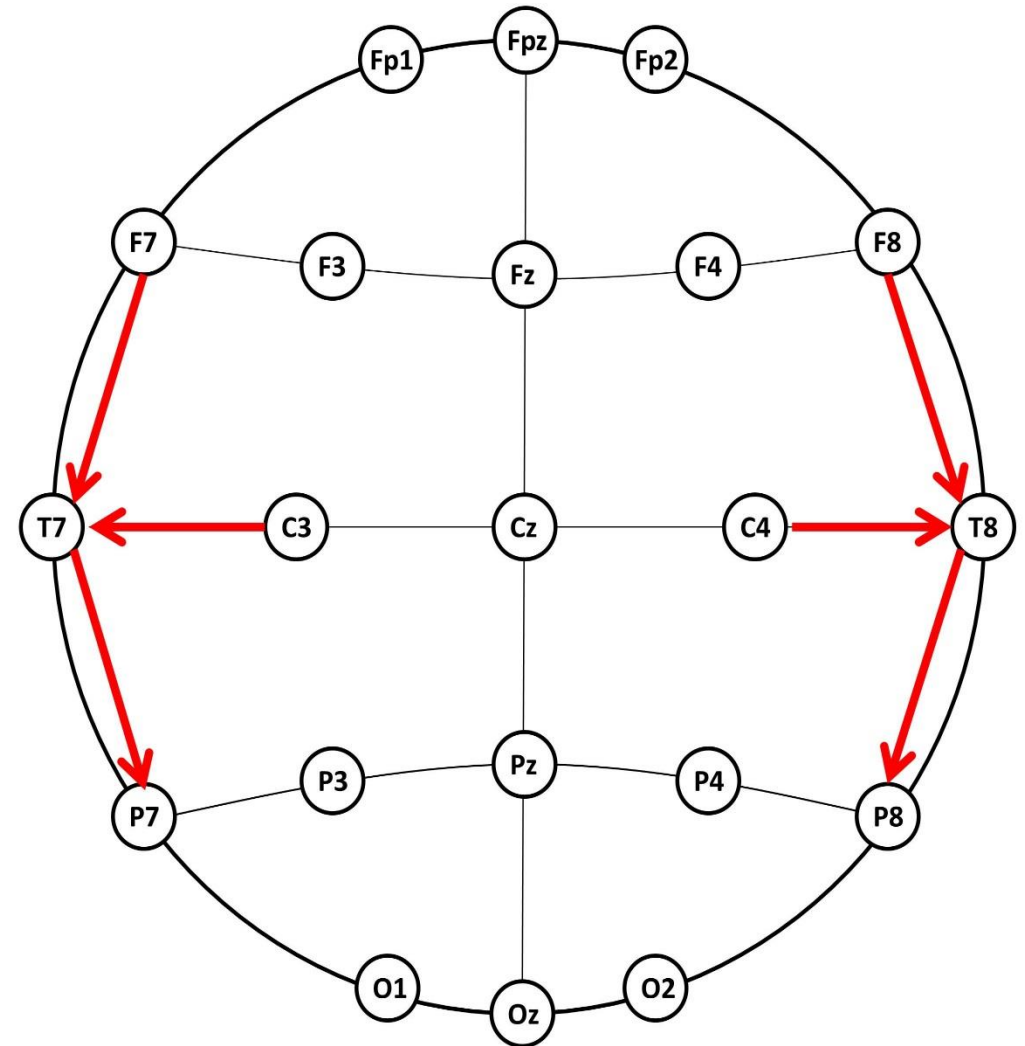
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# Data

- Three orientations
- EEG epochs with seizures
  - 5 frontal
  - 5 parietal
  - 5 temporal
  - 2 occipital
  - 4 generalized
- 25 EEG epochs without seizures



# Results

- Two reviewers:
  - Overall sensitivity: 86% and 79%
  - Overall specificity: 95% and 99%
- Channel oriented towards the seizure onset zone
  - Rate of seizure recognition: 95% and 95%
- Channel not oriented towards the seizure onset zone
  - Rate of seizure recognition: 81% and 71%

# Conclusion

- It is possible to record seizure occurrence using a single pair of scalp electrodes.
- Channel orientation towards the seizure onset zone optimises seizure recognition
- Applications in
  - Long-term monitoring for low-frequency seizure occurrence
  - Surveillance for patients with frequent seizures