**IEEE SPMB 2021: Review Results**

**Submission Type:** Abstract

**Paper No. a016:** Recent Advances in the TUH EEG Corpus: Improving the Interrater Agreement for Artifacts and Epileptiform Events

**Score:** 9 / 10 (Rank: #1)

**Summary:** This abstract of a poster is well written and acceptable to be published at its current form. A major comment raised by reviewer #1 regarding metrics can be addressed in the poster, as the authors indicate in the last paragraph.

**Reviewer #1:**

The paper highlights important shortcomings to the data set of interest. The authors provide a summary of how they solved these shortcomings to improve the data set. Some parts can be reworked for clarity (see reviewers’ comments). Also, metrics should be included to quantify the degree to which these changes improved the data set.

The authors focus on important improvements to Temple University Hospital EEG Seizure Corpus (TUSZ) v1.5.2 and University Hospital EEG Artifact Corpus (TUAR), which are two widely adopted data sets belonging to the Temple University Hospital EEG Corpus (TUEG).

They adequately solve the mutual exclusivity problem in the TUSZ data set and work to annotate high frequency seizures.

In the second paragraph, it was not explicitly stated whether the annotations were specifically for these high frequency seizures—I can only assume. A “Regarding (2)” or alike similar to the beginning of the start of the paragraph would be helpful.

Additionally, they address specific issues such as memory limits and annotation inconsistencies. In my opinion, both changes increase the utility and reliability of the data set. However, **the authors fail** to mention any metrics for whether there is a significant improvement in either category via some metric.

I can appreciate their change of format for annotation, but an example of how they are using XML for this hierarchical annotation would be helpful. This should be highlighted in the posted.

**Reviewer #2:**

This abstract of a poster is well-written and organized. It provides an appropriate justification and reasoning for the improvement of the TUH EEG corpus, especially in terms of artifact annotation.

**Reviewer #3:**

The abstract discusses recent advances in the ongoing TUH EEG Corpus project. Authors address the data leakage between the train/test splits of the TUSZ database by rearranging the patients. The new development and evaluation sets are designed such that their sizes match the previous versions of the database. Although the quality control (QC) process is rigorously executed, Kappa statistic > 0.8 seems very high. The authors should verify and provide some insight into it.

Integration of hierarchical annotations using standard XML file format will make this process easier for the users. The statement "Eye movements are often mistaken as seizures due to their similar morphology" perhaps points to a specific signal morphology. In most cases, eye movements are easily differentiable from the seizure events. Consider adding an example during the poster presentation.

The abstract is well written and easy to understand. Verify the interrater agreement Kappa statistic.