Answer Sheet

Dear Reviewers:

Thank you very much for your comments on our manuscript, and these comments are very useful for us. We have improved our manuscript “Monitoring and Early Warning for Hydroelectric Generating Sets based on Hotelling’s T2 and LSTM Model”, based on your comments. The response to the comment is listed and corresponding content is added in the revised paper.

Reviewer 1

A T2-LSTM monitoring and early warning model for hydroelectric generating sets was proposed in this paper. The work is interesting, it would be useful in early warning of hydropower unit.

The authors’ answer:

Thank you for your comments. The paper has been reviewed, and some improvements have been made.

Reviewer 2

In this paper, a T2-LSTM monitoring and early warning model for hydroelectric generating sets are proposed. Through the information fusion of multi-channel vibration and swing signals, the monitoring and early warning of multi-channels hydroelectric generating sets are realized. The model has a high accuracy in T2 prediction and can realize the early warning for abnormal status. First of all, we appreciate that the author’s research team has opened up the results, which is of great significance for further research and development in this field. In terms of papers, I am strongly recommending the following items:

Comment 1. To reduce the amount of data, the PCA is adopted. But in the procedure flowchart of Figure 1, the method is not mentioned. Please correct the flowchart.

The authors’ answer:

Thank you for your suggestion. The flowchart was updated and PCA was added as follows.

Comment 2. It will be better to use present tense in the abstract and whole manuscript about the discussion to conduct the present research work.

The authors’ answer:

Your suggestion is greatly appreciated. After a revision for written, present tense is now used in all discussion parts of the manuscript to conduct the present research work.

Comment 3. Please pay attention to the punctuation of the article. For example, in 2.2 section, “… PCA as Eq. (1)” should be corrected as “… PCA as Eq. (1).”

The authors’ answer:

We apologize for the incorrect use of punctuation, and the necessary corrections have been made.

Comment 4. In the References section, please use a uniform reference citation format.

The authors’ answer:

We have revised the References section to ensure a uniform reference citation format throughout the manuscript. Thank you for your suggestion.
Comment 5. In Figure 1, the format of the text is inconsistent with the other figures. Please correct it.

The authors’ answer:
We apologize for the incorrect text format, and it has been corrected now.

Comment 6. In the section 2.3, what does Fig. 2 refer to? Please explain in detail and correct the label of each figure.

The authors’ answer:
Fig. 2 illustrates the structure of a fundamental unit within LSTM. Fig. 2 has been redrawn with improved text clarity, and the labels for each figure have been checked.