I enjoyed the opportunity to review the submitted and interesting proposal ‘Is enhanced predictive engagement in tinnitus independent of hearing loss?’ The planned research aims at investigating regularity-dependent anticipatory predictions, processing of four carrier-frequencies in relation to tinnitus distress in persons with (chronic) or without tinnitus. Overall, the posed hypotheses should allow answering the research question(s) with the choice of methods and analyses. The blinding of the authors seems sufficient. H1 and H2 are well explained and elaborated. Most of the section on stimuli and the experimental procedure reads well and are complete. I will not comment on specifics of the MEG data analysis, MVPA, or the temporal generalization method as my expertise is limited. I advise the editor(s) to get feedback from an expert on these specific parts. However, there are additional aspects that can be better addressed. I will list them chronologically below.

Major issues:

Title: It is not known if persons with tinnitus experience enhanced predictive engage for auditory input. This proposal tries to replicate findings from yet to be published study (i.e., the preprint from Partyka et al., 2019). Therefore, the current title could be misleading as is and should be re-formulated or more precise.

Introduction:

The introduction lacks depth of relevant literature. Only the altered-gain hypothesis and the Bayesian inference framework are addressed. However, there are other models that also try to explain increased spontaneous activity in the central nervous system, such as the noise cancellation model (Rauschecker et al., 2010) or the thalamocortical dysrhythmia hypothesis (Llinas et al, 1999 or De Ridder et al, 2015).

I-171-172; H3: It is not clear why you expect no influence of tinnitus distress on anticipatory processing. If H1 turns out to be false, do you still attempt to confirm H3? In the design table (Table 1) it is not clear why H3 is linked to H1 and not H2. In addition, it is not clear in the ‘Analysis plan’ in Table 1 that you will look at pre-stimulus mean decoding accuracies.

* In addition, why did you choose to use the mean scores? In a possible further analysis, it would be interesting to inspect subscales of the TQ (i.e., intrusiveness of sound and/or auditory issues).
* There is a possibility that people experiencing louder tinnitus have increased TQ scores and therefore, according to your H1, enhanced anticipatory predictions. Are you planning or have you collected data on the loudness or the pitch of the tinnitus?

Participants:

l-247-250: The matching of hearing loss seems reasonable. However, it is not clear how you define hearing impairment. Which thresholds did you use?

MEG data acquisition and preprocessing:

l-348-359: I am not an expert on machine learning models, but how do you justify to use the same data for training and testing data sets?

Stimuli and experimental procedure:

To improve a better understanding of the experimental design, please specify if the number of conditions was also balanced. You describe that per block 1500 stimuli are presented, while 500 stimuli belong to one condition. It would be possible that in block 1 you presented random (500 stimuli), ordered (500 stimuli), random (500 stimuli) and repeat the same pattern in block 2, which means that you would have a different number of data points per condition entering the analysis. Please specify.

Minor issues:

Abstract:

l-36-37: Consider reformulating ‘varies from random to ordered’, as there are 2 conditions and no steps in between them.

l-46-48: Do you refer to chronic tinnitus here? Please explain or clarify this further. It is always difficult to speak of ‘consequences’ or ‘causations’ as it is extremely hard to establish causation – it might be better to refrain from such terminology.

Introduction:

l-59-61: According to Jarach et al., 2022, the prevalence in older participants is up to 24%, I would be more precise here.

I-67: Please add references to the sentence ‘Hearing loss has been identified as a highly predictive trigger for tinnitus. ‘. On what literature do you base this statement?

l-105-106: How could the model explain tinnitus when opposed to hyperactivity in the auditory system, please specify.

Statistical analysis:

l-371: Please add the exact ms for the pre-stimulus interval. Are you using -400 – 0 ms? The same holds for the post-stimulus interval for H2 (i.e., l382 – 396).