

I. IDENTIFICATION DATA

Thesis title:	Psilobeats: Locating Psilocybin's Effects on Human Brain in Respect to Music Perception
Author's name:	Bc. Matěj Hužvár
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Radioelectronics
Thesis reviewer:	Ing. Vlastimil Koudelka, Ph. D.
Reviewer's department:	National Institute of Mental Health in Klecany

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
The project aim was to solve a particular technical problem in research of EEG correlates of music perception and the effects of psilocybin on music perception. This required to find, learn, implement, and validate complex methods for EEG analysis and to design a method for evaluating connection between music signal and EEG time courses.	

Fulfilment of assignment	fulfilled
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
The student clearly fulfilled the assignment. The thesis clearly describes overcoming the technical parts (e.g. synchronization of music and EEG, EEG preprocessing, headmodel preparation), methodological issues (e.g. multiple comparison problem, choosing the music feature extraction, dimension reduction), contains final results tested by an appropriate statistical method, and discuss the results in sense of the knowledge from the literature.	

Activity and independence when creating final thesis	B - very good.
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
The student was active during the project and the work was regularly (with some breaks) consulted even during his internship at the National Taiwan University of Science and Technology. Matěj presented the work to the cooperating research team at the Institute of Mental Health. Matěj showed that he can analyze and solve technical problems independently and also propose new ideas and communicate them out clearly.	

Technical level	A - excellent.
<i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
The thesis is written in an adequate technical level. I see worthy to mention that the work has multi-disciplinary nature and it was required to change the perspective of the text time to time (e.g. from the technical parts in methods across musical parts to the physiological perspective in the discussion). I admire the work especially for the light still technically correct expression of this multi-disciplinary topic.	

Formal level and language level, scope of thesis	A - excellent.
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
The thesis is written in excellent English. Notations, citations, and figures are properly organized, explained, and referenced in the text. The text is rather shorter in terms of the page count. However, the results and the clearness of the expression move the content of the work highly above the average.	

Selection of sources, citation correctness**B - very good.**

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

The student properly cited all knowledge used in his work such that it is possible to follow the text and possibly reproduce the results. However, I would appreciate more extensive citation list and broader review of both possible methods and electro-physiology.

Additional commentary and evaluation (optional)

Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

Please insert your comments here.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

The thesis is on an excellent level especially for its rigor. Matěj was always open to reshape, recalculate, reproduce even an already finished piece work to finally produce a correct result. This makes the work to be directly utilize in our research. Further, I see the results original both from the methods and results point of view. The student was active, presented his results on the data meetings of Psychedelic Research Center, and discussed the results with the researchers in the field.

The grade that I award for the thesis is **A - excellent**.

Date: **5.6.2023**

Signature: