THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Application potential of NIR to IR optical centers in diamond**
Author's name:	**Farzaliyev Ramil**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Physics
Thesis reviewer:	Štěpán Potocký
Reviewer's department:	Institute of Physics of the Czech Academy of Sciences

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment **challenging**

How demanding was the assigned project?

We chose highly current topics, demanding but at the same time with easily completed tasks for the student. Required study of literature and physical principles. Combining technology and analytical measurement methods to get the work done.

Fulfilment of assignment **fulfilled with minor objections**

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.

The thesis extensively reviews literature on various optical centers. The student has thoroughly addressed all specified tasks within the literature review portion of the thesis. The work demonstrates a understanding of the fabrication methods, specific elements for NIR-IR centers, their incorporation strategies, associated challenges, future outlooks, and relevant applications, particularly in biology and medicine.

Activity and independence when creating final thesis **D - satisfactory.**

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.

Unfortunately, both the communication and activity of the student were weak. This is his second attempt to defend similar work and I can see improvement in the work quality.

Technical level **C - good.**

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?

The submitted work has an average professional level, which could reach higher values, assuming a more active approach.

Formal level and language level, scope of thesis **D - satisfactory.**

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?

The thesis is well-structured, demonstrates a good understanding of the topic, and presents a substantial amount of literature review and experimental work. The formalisms are generally correct, and the presentation is mostly good. The English is satisfactory for a Bachelor's thesis, allowing for clear communication of the research, though a final proofread for minor grammatical points would be beneficial.

Selection of sources, citation correctness **C - 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 resources are relevant to the complexity of the work and the range of methods used. In my opinion, the sources used are sufficient, up-to-date and relevant for the given work. Unfortunately, however, the form of the citations does not correspond to the usual standard. At the same time, it will probably be difficult for the opponent to assess his own contribution to the work, which I, as a supervisor, know, but it would be appropriate to clearly state what are his results and his own contribution to the work.

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.

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

Summarize your opinion on the thesis and explain your final grading.

Despite formal shortcomings, it can be stated that Ramil Farzaliyev got acquainted with the current state of the art of optical centers in diamond. The student also proved his skills in the experimental part of the work, where he was able to alone prepare and grow ultrathin diamond layers with Si-V centers using plasma systems, operate complex (AFM/Raman/PL) analytical instruments and analyze the results. With a more proactive approach, the level of the work could be higher.

The grade that I award for the thesis is **C - good.**

Date: **28.5.2025** Signature: