THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Study of material segregation in mixed-halide perovskite for solar cells**
Author's name:	**Reema Pradeep Newaskar**
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of electrotechnology
Thesis reviewer:	doc. Mgr. Jakub Holovský, Ph.D.
Reviewer's department:	Department of electrotechnology

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**

How demanding was the assigned project?

The project was complex including both technology and measurements. The techniques used were: spin coating, evaporation, I-V measurements, Fourier transform photocurrent measurements and Transmittance and Reflectance measurements. All the measurements had to be made in exact time sequence during light-soaking and relaxation and maximum of the steps were performed in nitrogen atmosphere.

Fulfilment of assignment	**fulfilled**

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 assignment was not primarily to solve the complex problem of material segregation but to learn the technology, the analytical techniques and the methods and to be helpful in the research. From this point of view it was completely fulfilled, even though not exactly according to the plan, but that was not reducing the quality.

Activity and independence when creating final thesis	**B - very good.**

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.

Reema is a student who likes doing things in advance and not in the last minute. But she is not as perfectionist as necessary for writing excellent thesis independently. So the reading of the draft of the thesis was often hard for me. But because she is motivated, hard working, very fast and effective, the thesis is finally very good.

Technical level	**A - excellent.**

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?

Student learned and understood the techniques employed for the research very well. The understanding of the physical phenomena is a task far beyond master thesis, but Reema showed that she is not afraid of it.

Formal level and language level, scope of thesis	**C - good.**

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 language competence of the student is very high in general. But this does not automatically mean that the scientific style was equally good. The way of writing and structuring scientific texts was probably completely unknown to Reema before. That is why that the structure of the thesis is the largest weakness.

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?	
On one hand Reema was effective and hardworking in reading scientific publications but the citation format was often not correct.	

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.
The project was highly scientific and a student can help with the work in laboratory, but cannot reach the level of scientist in such a short time. Reema was indeed a great help for our research.

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.

Summary: The student Reema Pradeep Newaskar is smart, competent and ready to dive in complex tasks. She has very responsible approach for her assignments. For writing and presenting results she could be more perfectionist.

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

The question for the defense: What are the principal differences between the measurements of absorptance using transmittance and reflectance and equation 1-T-R and using photocurrent spectroscopy (FTPS)? Focus on the errors that can happen during measurements of transmittance and reflectance and errors given by parasitic absorptance, for example if the glass substrates is absorbing.

Date: **11.6.2021**   Signature: