THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Solar Irradiance Decomposition Using the Erbs Model**
Author's name:	**Nihal Muhammed Kannanari**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Department of Mechanical Engineering
Thesis reviewer:	Ing. Viacheslav Shemelin
Reviewer's department:	University Centre for Energy Efficient Buildings of Czech Technical University in Prague

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment — **ordinarily challenging**

How demanding was the assigned project?

The assigned project was ordinarily challenging.

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 assigned task was completely fulfilled and the primary goals have also been achieved. On the other hand, the other solar irradiance decomposition methods could be described in more detail.

Methodology — **correct**

Comment on the correctness of the approach and/or the solution methods.

The correct approach was chosen to provide the task solution.

Technical level — **B - very good.**

Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?

The student explained his work in a well mannered way.

Formal and language level, scope of thesis — **B - very 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 thesis, in generally, is well-presented. On the other hand some chapters could be extended. For instance, the difference between other solar irradiance decomposition methods could be also presented in the work. Moreover, it would be very helpful, if the monthly average clearness index will be presented in the work.

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 selection of sources is good enough. Sometimes, the author mixed two different citation styles.

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.

Probably there are some mistakes in the presented graphs. For example, in the Figure 12 the presented equation does not correspond to the red line.
The equation font used in the document is different (eq. 2.2.C vs 2.6)

It is better to use SI units (J/m^2) instead of J/sm^2.

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

The scope of the thesis is adequate to the assigned task. The are some mistakes and imperfection in the thesis. In view of above, I suggest grade B (very good). The questions for the presentation:

1. *Please provide the definition of Clearness index, the typical values for clear and cloudy weather and hot it is used in the Erbs method for solar irradiance decomposition.*
2. *Please describe in brief the main difference between pyranometer and pyrheliometer (Which instrument is used to measure global solar irradiation and which one is used to measure only direct solar irradiation).*

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

Date: **14.8.2020** Signature: