

## Jury Member Report – Doctor of Philosophy thesis.

**Name of Candidate:** Mikhail Dobynde

**PhD Program:** Engineering systems

**Title of Thesis:** Radiation Shielding of Astronauts during Interplanetary Flights

**Supervisor:** Prof. Rupert Gerzer

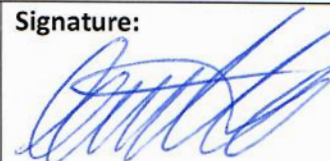
**Date of Thesis Defense:** 17 February 2020

**Name of the Reviewer:** Prof. Clement Fortin

I confirm the absence of any conflict of interest.

(Alternatively, Reviewer can formulate a possible conflict)

**Signature:**



**Date: 21-01-2020**

*The purpose of this report is to obtain an independent review from the members of PhD defense Jury before the thesis defense. The members of PhD defense Jury are asked to submit signed copy of the report at least 30 days prior the thesis defense. The Reviewers are asked to bring a copy of the completed report to the thesis defense and to discuss the contents of each report with each other before the thesis defense.*

*If the reviewers have any queries about the thesis which they wish to raise in advance, please contact the Chair of the Jury.*

### Reviewer's Report

Reviewers report should contain the following items:

- Brief evaluation of the thesis quality and overall structure of the dissertation.
- The relevance of the topic of dissertation work to its actual content
- The relevance of the methods used in the dissertation
- The scientific significance of the results obtained and their compliance with the international level and current state of the art
- The relevance of the obtained results to applications (if applicable)
- The quality of publications

The summary of issues to be addressed before/during the thesis defense

The thesis presents a great number of very valuable simulations about the effects on the human body of space radiations comprising various types of particles. The document is structured into 6 chapters including the bibliography and comprises 95 pages in the submitted version.

The introduction is rather long and includes a significant amount of literature information that should be moved to the literature review chapter.

The document needs more extensive proofs on the verification of the results. There are only a few brief instances where comparisons with previous work are mentioned and they do not provide significant evidence on the validity of the presented results.

The list of symbols must also be completed.

Supplementary material is mentioned on page 33 but there is no content provided.

#### Provisional Recommendation

*I recommend that the candidate should defend the thesis by means of a formal thesis defense*

*I recommend that the candidate should defend the thesis by means of a formal thesis defense only after appropriate changes would be introduced in candidate's thesis according to the recommendations of the present report*

*The thesis is not acceptable and I recommend that the candidate be exempt from the formal thesis defense*

