

Faculty of Nuclear Sciences and Physical Engineering
Department of Physical Electronics
Sekretariat KFE
Dr. Miroslav Čech
Head of the Department
Trojanova 13, 12000, Praha 2

Prague 21-05-2022

Dear Dr. Čech,

I'm replying to your letter of May 5, 2022 (Č.j. 29/22/14112/Zaro), subject "Review of the diploma thesis", in which you asked me to perform the opponent review of the diploma thesis by Vanda Sluková Bc., entitled "Monte Carlo simulations of radiotherapy treatment with laser accelerated particles".

Overall, I judge the thesis to be "E – sufficient".

The candidate has clearly performed a good amount of work, nevertheless several points are not dealt properly.

A serious problem of the simulation studies is the use of a limited number of cycles (2 or 3) used for the Fluka simulations. Albeit this could sound as a purely technical point, it is a very relevant one because with such a small number of cycles it isn't possible to properly estimate the statistical uncertainty of the simulations results, therefore, it indicates that the candidate has not acquired adequate understanding of the tools in use. Indeed, the statistical uncertainty of the results obtained is not discussed. Another relevant problem is that in the graphical presentation of the results (figures and corresponding captions) is not always adequate; at times, the measurement units are not provided and the fonts of the pictures are too small to be easily read. Last not least, at times the English language used in the thesis is lacking clarity.

On the other hand, it has to be acknowledged that the candidate has worked on a challenging task which involves different areas of knowledge and requires different types of expertise. The candidate has been able to learn (even if at a beginner level) how to use a simulation code which is quite complicated and requires an effort also from a more senior scientist to be learned. Last not least, while there are lacks in the English language, the thesis is written at an acceptable level, above the average I would expect from their peers.

I hope that my review satisfies your expectations. I am at your disposal for any further clarification or request you might have.

As per your request, I inform you that I do not plan to attend the defence personally.

Best regards,

Roberto Versaci