

Jury Member Report – Doctor of Philosophy thesis

Name of Candidate: Evgenia Gilshteyn

PhD Program: Materials Science and Engineering

Title of Thesis: Components for Stretchable Electronic based on Single-walled Carbon Nanotubes


Supervisor: Prof. Albert Nasibulin

Chair of PhD defense Jury: Prof. Nikolay Gippius,

Email: N.Gippius@skoltech.ru

Date of Thesis Defense: 05 October 2018

Name of the Reviewer:

I confirm the absence of any conflict of interest (Alternatively, Reviewer can formulate a possible conflict)	Signature and date:  H. Tunnaya 25.09.18
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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

I am strongly impressed by this PhD thesis and estimate the results presented in it as very successful. The PhD thesis of Evgenia is devoted to investigation of carbon nanotube films for stretchable electronics applications. Several important applications such as bio-electrodes and energy harvesting as well as energy storage devices are addressed with the focus on the relationship between the stretchability-morphology-transmittance-resistance. Thus, this thesis addresses the highly relevant and vital areas of current nanomaterial science.

The submitted thesis presents investigations on the preparation, characterization, application and performance evaluation of the carbon nanotubes-based electronic components. The thesis is carefully referenced (95 references) and a comprehensive bibliography contains all the relevant papers for the discussed field. It is worth mentioning here that most of the references are from the last decade, showing the topical issues. This part is well written and provides a very good background for understanding the rest of the thesis.

The main part of the thesis consists of four chapters (Chapters 3.1-3.4), each addressing a specific scientific problem. All of them exhibit the same structure, which is typical for scientific papers. In the final section the

general conclusions of the work are summarized. The thesis is prepared in good editing standard. All the figures are carefully prepared and clearly presented. The language is comprehensive and coherent while there are no errors and inaccuracies.

Provisional Recommendation (select one)

- 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*