

## Jury Member Report – Doctor of Philosophy thesis.

**Name of Candidate:** Andrey Churkin


**PhD Program:** Engineering Systems

**Title of Thesis:** Game-theoretical approach to cooperation stability analysis in cross-border power interconnection planning

**Supervisor:** Professor Janusz Bialek, Skoltech

**Co-advisor:** Assistant Professor David Pozo, Skoltech

### Name of the Reviewer:

<p>I confirm the absence of any conflict of interest</p> <p>(Alternatively, Reviewer can formulate a possible conflict)</p>	<p><b>Signature:</b></p>  <p><b>Date: 19-10-2020</b></p>
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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

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 PhD thesis submitted by Andrey Churkin is of high quality and very well structured. The chapters are very well presented and the quality of English is excellent.

The Citation Network Analysis methodology used for the literature review is very well presented and the diagrams and the corresponding text provide a very clear perspective on the field. I suggest to add a few references for the method and tool used for the literature review.

The content is all relevant to the topic of the dissertation and the sections of each chapter are presented in a very logical form.

I was surprised to see that the analysis of chapter 3 is based on Costs as the main parameter rather than Value. I think that business partners are looking much more at value than strictly costs in any of their negotiation strategies. The mathematics are certainly correct, but it is more a question of the philosophy of approach.

The results are very applicable, and the use case is of high relevance to the topic and close to application.

Overall, the research work and the publications presented are of very high quality.

#### 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*