Review of the Master's Thesis

Thesis title: Numerical simulation of impact with barriers

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Reviewer: Ing.Michal Frydrýn, Ph.D.,
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Master's Thesis has 163 pages. It includes well-arranged content, list of abbreviations, list of figures and tables, bibliography and list of terminology.

The Master's Thesis deals with finite element model of steel crash barriers and with simulation of impact on this barriers by standardized test using simulation program LS DYNA. Subject of thesis is modern and actual because use of computer simulations leads to efficient development in the field of road safety.

In chapter 2 of thesis, author deals with research of road restraint systems especially of steel crash barriers. Author describes types of barriers, their structure and design, testing procedures and examples of use of barriers. Furthermore author deals with computer software that was used for simulations in this thesis and author also describes crash barriers JSNH4/H2 and JSEM/H2 in detail. These barriers were used for simulations. In chapter 3, author described making of barrier model using program ANSYS Workbench and setting of simulation parameters in LS-DYNA computer program. Furthermore the series of defined tests were performed and the results were evaluated.

The thesis is made well on a formal level. Layout of chapters is logical and well-arranged. Author's approach to master's thesis submission was systematic. Thesis submission was fulfilled. References to other used publications are correct.

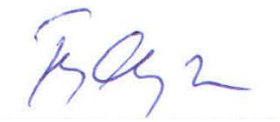
Author's approach to introductory research should be assessed very positively because it is very complex and author used lot of sources. The description of practical part of thesis is detailed and author gave reasons for used procedures.

The master's thesis fulfilled all requirements from its submission including its length and results.

I recommend it for defense and grade it A (excellent).

Question for defense:

Why is the barrier post concreted to the ground in the created model?



In Prague, June 14, 2015 Ing. Michal Frydrýn, Ph.D.