

## SCR efficiency model using a neural network and a pseudo 1-D model

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Submitted diploma thesis (further thesis) contains 74 pages including abbreviations and list of employed literature. No dispute about rigorously done work. It carefully describes complete matters touching gasoline and diesel engines. Afterword, diesels prevails.

Author reminds complete history, development and principles of engines with internal combustion. Easily highlights advantage and disadvantages of meaning solutions and notifies harmful impacts to organisms. It should be appreciated author explicitly listed main pollutants and their impact to human health. This issue smoothly continues to explain- emission limits and their importance worldwide. I note that author reminds existence of miscellaneous driving cycles made for measuring observed pollutants mentioned above. The first chapter ends by clearly said topic, simulation and modelling GMP

Next chapters concern SCR systems using in PSA concern more precisely linked to PSA diesel engines. All following chapters are very detailed, notwithstanding it is very comprehensible. DV and DW engine families are skillfully distinguished as a different group. Author very firmly touched orientation in engine management mainly open/close loop, oxygen sensor operation and actuator's control. Personally, I appreciate analysis of particular driving cycles in relation of author's own. This proofs her excellent knowledge and orientation in written subject. In relation of own practical work (measuring), I guess spent time had not been sufficient for "any relevant" conclusion. Therefore I must underline author's good intention to offer concept for ongoing project- aim: precise shown method.

Formally, I owed very light criticism toward this thesis linked to mistype on page 41. and 42. Chart's axis shows m/s instead of km/h. I cannot find any other inconsistency in the subject.

As a conclusion, I clearly recommend the submitted thesis to be defended in front of the committee.

**My evaluation is B "Very good" - internal meaning.**

### Questions:

1. Page 38. shows table no.5 without any value. For what reasons?

In Prague, 8th September, 2017



Ing. Dalibor Krejčík