Abstract of PhD dissertation entitled
"Evaluation of vibration and noise affecting motorcyclists"

Vibration and noise are among the main environmental risks caused by transport. Long-term (over multiple years) operation of means of transport may cause health of drivers and passengers to deteriorate. Motorcycles are among means of transport that directly impact users. Close contact of the motorcyclist with the construction elements of the motorcycle causes vibration generated by this means of transport to be directly transmitted to drivers and passengers. Also, motorcyclists' head protection in the form of helmets may be insufficient to provide acoustic protection for their hearing organs.

In this paper research was undertaken aiming at the evaluation of vibration and noise affecting motorcyclists. While analysing the literature, conclusions were formulated with regard to research problems which have not been solved so far. Then two theses as well as objectives and scope of research to be carried out as part of the PhD dissertation were adopted.

The research section of the PhD dissertation presents the results of research aimed at evaluating vibration and noise which are generated by motorcycles and have an impact on the environment, and above all on motorcyclists. Studies were carried out during which:

- environmental impact of motorcycles and other means of road transport was determined,
- helmet dampening was identified along with a modal analysis,
- method of simultaneous measurement of vibration and noise affecting a motorcyclist was developed,
- measurements of vibroacoustic influence of the motorcycle on the driver in actual traffic conditions were carried out,
- detailed assessment of the vibration and noise affecting the motorcyclist in terms of time and frequency was conducted,
- method was developed and a simultaneous exposure of the motorcyclist to vibration and noise was evaluated.

The methods of research as well as the conducted measurements and analyses of the results have confirmed the validity of the theses adopted in the paper.