This thesis is focused on the legal protection of the environment and human health from the effects of selected physical factors, especially noise, vibration and ionizing and non-ionizing radiation. In the introduction the thesis defines the every singe physical factor, reminds their effects on the environment and the health and life of humans and especially suggests possible measures to eliminate the negative effects of these factors. The emphasis is placed on clarifying the consistency of these measures with the means of protection. Subsequently, the thesis includes separate chapters devoted to European, Czech and selected international legal instruments of protection from selected physical factors and their comparison.

One of the key questions to be dealt in the thesis is the effort to clarify whether and how does the legislation in different countries exploit physical similarity between the studied factors. Another question to answer is to what extent is it (for the effective protection of the environment, life, health and other values) useful to accurately identify and name the sources of threat, and whether the case-focused legal protection, anchoring extensively detailed rules for each previously known source of threat, actually leads to more efficient protection against various sources of risk.

It turned out that the majority of the examined physical factors is to some extent a natural part of the environment. The main sources of threat to human life and health and the environment do not currently include natural operation of these factors, but increasingly extensive application of knowledge about the impact of physical factors in various fields of human activity (production, transport, etc.). Nowadays most of the population of the Czech Republic and the EU (and probably the world) is exposed to undesirable impacts of physical factors caused by human activities. In case of physical factors, which began to be regulated later and are not yet perceived as so serious, this action - due to a lack of regulation - can be described as constantly growing. Conscious use of the effects of certain physical factors and their artificial creation was allowed due to gradual development of scientific knowledge. The need to create the legislation regulating the use of these factors appeared later. Leading role in the protection of the environment and human health from the effects of physical factors plays a variety of measures primarily of a technical nature, for which the legal measures offer necessary framework.

Physical factors that are naturally or due to anthropogenic activities occurring in the environment and may have negative or positive effects are similar in their nature. However the legal protection against them does not have many of the common characters. From the beginning of the creation of legal protection till now there is still maintained a certain

dichotomy consisting of the simultaneous perception of the physical effects resulting from human activity as a potential source of danger or harm to the environment or human life and health, as well as the nuisance factor hampering undisturbed neighborly coexistence. A comprehensive view on the whole issue might produce a more efficient protection against threats to these factors. Thus, a comprehensive approach to the issue is not yet asserted in practice or theory.

Legal protection against the adverse effects of physical factors is case-focused. Large number of legal provisions was constructed, giving effect to greatly detailed rules for each physical factor separately. These rules are contained in a number of different sources of law of various legal forces. There are many sources of law dealing directly or indirectly with the protection from the adverse effects of physical factors, including all major types of sources of law. The dominating source is the legislation (in national law particularly laws, in the European law the directives), enabling to determine very accurately various duties of operators of physical factors or directly limit the exposure to these factors, which must be respected in their operation. Such an approach leads to considerable confusion of law. It is not used that physical factors are the terms of their substance very similar and that one human activity is usually emitting exposure of more than one of these effects simultaneously. Differences in the perception of the effect of physical factors often rather incurred only historically.

Legislation protecting against undesirable effects of physical factors should be based on the same principles (the principle of a high level of protection and the principles of precaution and prevention). Adverse impact of physical factors should always be viewed comprehensively, should be based on the entire system of relations in a given area. Generally, it is also appropriate for all physical factors apply, it is expedient to deal with their emissions, which can be easily controlled by setting the parameters determining the binding characteristics of the source, and their imissions at the same time, because the regulation of the immisions can better capture the unexpected synergy effects of individual sources and to some extent as some unexpected effects on the protected interests. Priority access to protection from the adverse effects of physical factors should - in accordance with the principles of precaution and prevention - always be complete or at least partial elimination of unwanted effects of physical factors at the source, not in the later stages of their action. Emission control and not consistent control at source would not be possible without detailed knowledge of the nature of resources and the establishment of binding rules (for example by

setting limits or obligations of the operator of unwanted physical factor) of the accurate knowledge-based.

To increase the effectiveness of protection against the adverse effects of physical factors in the Czech Law could facilitate the implementation of varied instrumental mix than what is available now. More attention should be paid to conceptual and preventive tools. Crucial should be the horizontal instruments, especially those that might help assist in solving complex relations in a certain area (environmental impact assessment, spatial planning). Inspirational could be the German law.