INFRASONIC RADIATOR

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Project relevance. The destructive effect of infrasound acoustic waves is defined by the labor protection standards in most countries, but the effectiveness of infrasonic radiators is confirmed with their acceptance into service in a number of countries. But in accordance with the indirect data the radiators do not have sufficient selective effect, therefore their use is very limited. At the same time the use of infrasound in the construction industry (demolition of old buildings, cleaning of building sites) is considered as promising. Moreover, it is useful for protecting a certain area against penetration, as well as for rodent control. The modern medicine witnesses that the infrasonic waves with certain characteristics have a positive impact on biological objects.

Project result. The infrasonic radiator is designed for the targeted regeneration of controlled acoustic waves in the infrasonic range. It is assumed that the radiator will consist of relatively cheap components with a minimum of special parts and its installation is made without the use of high-tech equipment.

Implementation area. Military sector, security activity, rodent, demolition of buildings, and medicine.

Academic achievements of the author. In related research areas there is defended a doctoral thesis and published more than 50 articles.

Practical achievements of the author. There is developed an experimental functional infrasonic radiator to 250 W with adjustable frequency radiation in the 5-30 Hz range and adjustable wave form. The radiator is based on very low-frequency loudspeaker and infrasonic wave generator regulating the frequency and waveform. The radiator was demonstrated at the exhibition "Arms and Security", held in Kyiv in 2015

Expected scientific value. There will be developed a methodology of targeted infrasound waves generation with adjustable characteristics and place of origin.

Expected practical efficiency. Providing sample and dosed infrasound influence on biological objects, technical systems and the environment.

Development time. The theme has a fundamental character, but the first results (infrasonic radiator with an intensity of 150-200 Dbl) will be available for 1 year. Approximately 2-3 years of intensive research will be needed in order to achieve the targeted radiation.

Development cost. Salaries for workers, engaged in the process, the cost of purchasing parts.