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- **ZATUKhANIE ZVUKA V PRYaMOUGOL'NOM POMESHchENII S IMPEDANSNYMI STENKAMI**

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Klyuchevye slova: reverberatsiya, koeffitsient zvukopogloshcheniya, impedans.

- Rassmotrena zadacha o zatukhanii zvuka v pryamougol'nom pomeshchenii, akusticheskie svoistva stenok kotorogo opisyvayutsya impedansom, chto privodit k zavisimosti koeffitsienta pogloshcheniya ot ugla padeniya zvukovoi volny. V luchevevom priblizhenii naideny zakony zatukhaniya zvuka dlya razlichnogo raspredeleniya pogloshcheniya na stenkakh. Pokazano, chto v pomeshchenii s impedansnymi stenkami zatukhanie zvuka proiskhodit medlennee po sravneniyu s obychnoi model'yu reverberatsii, kogda koeffitsient zvukopogloshcheniya stenok polagaetsya nezavisimym ot ugla padeniya. Takzhe zadacha reshena v volnvoi postanovke, chto pozvolilo poluchit' zakon zatukhaniya v zadannoi polose chastot.
- **Spisok literatury**
- *Sabine W.C.* Collected Papers on Acoustics. Peninsula, Los Altos, CA, 1992.
- *Eyring C.F.* Methods of calculating the average coefficient of sound absorption // J. Acoust. Soc. Am. 1932. V. 4. P. 69–82.
- *Fitzroy D.* Reverberation formula which seems to be more accurate with nonuniform distribution of absorption // J. Acoust. Soc. Am. 1959. V. 31. P. 893–897.
- *Arau-Puchades H.* An improved reverberation formula // Acustica. 1988. V. 65. P. 163–180.
- *Kuttruff H.* Room Acoustics. Spon Press, London, 2000.
- *Bistafa S.R., Bradley J.S.* Predicting reverberation times in a simulated classroom // J. Acoust. Soc. Am. 2000. V. 108. P. 1721–1731.
- *Kanev N.* Sound decay in a rectangular room with specular and diffuse reflecting surfaces // Proc. of Forum Acusticum, June 27–July 1, 2011, Aalborg, Denmark. P. 1935–1940.
- *Pompei A., Sumbatyan M.A., Todorov N.F.* Virtual'nye komp'yuternye modeli pomeshchenii: metod luchevykh traektorii i algoritmy auralizatsii // Akust. zhurn. 2009. T. 55. № 6. S. 760–771.
- *Isakovich M.A.* Obshchaya akustika. M.: Nauka, 1973. 436 s.
- *Joyce W.B.* Sabine's reverberation time and ergodic auditoriums // J. Acoust. Soc. Am. 1975. V. 58. P. 643–655.
- *Gilbert E.N.* Ray statistics in reverberation // J. Acoust. Soc. Am. 1988. V. 83. P. 1804–1808.
- *Shabalina E.D., Shirgina N.V., Shanin A.V.* High-frequency modes in a two-dimensional rectangular room with windows // Acoust. Phys. 2010. V. 56. № 4. P. 525–536.
- *Kanev N.G.* O probleme prognozirovaniya i izmereniya vremeni reverberatsii v pryamougol'nykh pomeshcheniyakh // Sbornik trudov Nauchnoi konferentsii, posvyashchennoi 100-letiyu so dnya rozhdeniya A.V. Rimskogo-Korsakova. C. 83–87. M.: GEOS, 2010.
- *Benedetto G., Spagnolo R.* Reverberation time in enclosures: The surface reflection law and the dependence of the absorption coefficient on the angle of incidence // J. Acoust. Soc. Am. 1985. V. 77. P. 1447–1451.

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