Environmental noise attenuation by resonator blinds

Abstract. A new idea of resonator blinds was designed and was tested in an office room. The noise level inside the room was measured using sound quality head and torso simulator. The resonator blinds was designed so that it can attenuate noise within human hearing sensitive frequency range. By overall, the resonator blinds was able to attenuate 5.1 dBA of environmental noise when frequencies were ranging from 100 Hz to 4000 Hz.

谐振百叶窗对环境噪声的衰减性能研究

摘要. 本文设计并测试了一种新型谐振百叶窗对环境噪声的降噪效果。该新型谐振百叶窗的结构设计基于对人类听觉敏感频率范围的噪声进行衰减。在某个办公室的实地试验中，使用音质头和躯干模拟器对该新型谐振百叶窗的降噪表现进行了实地模拟测试。试验结果表明，当频率范围从 100 Hz 到 4000 H 时，该谐振百叶窗能够衰减环境噪声约 5.1 dBA。