

TITLE:

An application of a parametric transducer to measure the acoustical properties of a living green wall

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ABSTRACT (200 words max):

Greening of urban spaces provides a number of environmental benefits. Green living walls (GLW) is a most typical example of greening which is also known for its ability to absorb unwanted noise. However, this ability of GLW to absorb noise is rather hard to quantify, because there is a lack of reliable experimental methods to measure it in-situ. This work reports on a new method to measure the absorption coefficient of LGW which makes use of a highly directional parametric transducer and acoustic intensity method. This method is tested in under controlled laboratory conditions and in a typical street environment. The results of these experiments demonstrate the ability of the method to measure the absorption of a LGW. It also enables us to quantify the effects of the plant type and moisture content in the soil on the ability of the LGW to absorb sound. The proposed method has certain benefits over ISO354-2003 and CEN/TS 1793-5:2003 standard methods.

Technical Committee:

Design of Noise Control Materials