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ABSTRACT

Buildings and historical monuments degrade over time due to natural and human factors, which accelerates their deterioration and loss. Preventive analyses are key to early identification and conservation of monuments, avoiding the advancement of damages and their elimination before the state of degradation becomes irreversible. The correct diagnosis of problems based on the identification of damages and their pathological processes is essential to ensure that the interventions to be carried out are the most appropriate in each case. The impedance gun allows the measurement of magnitudes such as the sound absorption coefficient at successive points on a surface while the sound field is excited with a small loudspeaker, generating a color representation of the material surface similar to the images obtained with thermography. This work evaluates its potential as a nondestructive technique in the field of architectural heritage for the detection of lesions and alterations on the surface of stone materials. Aspects such as speed and ease of use make it a technique with great potential for use in identifying injuries on materials in the field of restoration.