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## **Shear Wave Attenuation in Lossy Media: An Experimental Study**

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### **Abstract**

Accurate measurement of shear wave attenuation is a difficult task and seriously limits the utilization of anelastic properties of engineering materials in particular. In a recent study we have found that "Pulse broadening" which occurs due to attenuation can be measured quite accurately while carrying out the shear wave velocity measurements in rocks, concrete, wood and other lossy media by using the 'Time-of-flight' measurement technique. The pulse broadening data can be used to determine the Quality factor ( $Q_s$ ) of the test solid from which the shear wave attenuation ( $\alpha_s$ ) can be computed using the standard relationships between velocity, attenuation and  $Q$ . The details of the measurement technique along with the results obtained are presented and discussed in this paper.