

Study of quantitative ultrasound for evaluation of materials

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Ultrasound is commonly used as a tool in both medical diagnosis and non-destructive testing. However, in clinical practice, diagnosis based on ultrasound images is qualitative; thus, it depends on the experience of the operator to identify pathological structures. Therefore, many efforts are made to provide quantitative information about the macroscopic properties (mass density, attenuation, speed of sound) and microscopic (cellular architecture) of tissue using ultrasound.

Based on these assumptions, this research focuses on studying the quantitative information obtained through Backscattered Coefficients (BSC, for its acronym in English) and their connection with the microstructure of tissues.