

C. P. Gadgil, T. Anjaneyulu, and S. C. Sahasrabudhe, Study of influence of temperature on acoustic properties of materials for ultrasound thermometry, Proc. International Conference on Recent Advances in Biomedical Engineering 1994, Hyderabad, India, pp. 110-113

Abstract - In life sciences as well as in manufacturing process the problem of non-intrusive internal temperature monitoring is yet to have a satisfactory solution. As temperature changes, like physical properties, acoustic properties also change. More attention has been paid to the estimation of attenuation coefficient as the preliminary work indicate higher thermal sensitivity. Attempt has been made to compute layer impulse response $h(t)$ using multiple narrow band transducers. The technique employs only reflected ultrasound signals from layer boundaries and appropriate curve filling technique to minimize errors. The technique also eliminates the dependence of attenuation coefficients on reflection coefficients.