

THE ULTRASONIC NONLINEARITY PARAMETER FOR BIOLOGICAL MEDIA

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The ultrasonic nonlinearity parameter B/A has been determined (a) by measuring the amplitude of the second harmonic acoustic pressure as a function of distance from the source and the amplitude of the fundamental at the source and (b) by measuring the speed of sound as a function of hydrostatic pressure. The B/A values for globular protein solutions increase approximately linearly with solution concentration. Blood and homogenized tissues exhibit B/A values similar to a hemoglobin solution of the same dry weight (concentration), but intact tissues possess a greater B/A value. Fatty tissues provide the greatest B/A values.