

# BRITISH ACOUSTICAL SOCIETY

71SBA7

Spring Meeting

5-7 April 1971

Ultrasonic processing for medical diagnostics

J.C. Somer and J. Lengkeek

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In diagnostic applications of ultrasound the depth resolution has always been a matter of much concern.

The angular resolution, however, will probably be of as much importance when the aim is to detect small structures like blood vessels for recording pulsations of heartvalves for the observation of the valve movements.

Especially when mechanical or electronic scanning systems are involved the enhancement of angular resolution will certainly result in better echo patterns. One way to obtain narrower beams is the multiplicative system. A pulse-echo system has been developed in which receiving is multiplicative. A four-section transducer is applied whereby the signals of the two diametrical pairs are multiplied and both these products are added.

Measurements of the directional patterns will be compared with the calculations and results obtained by applying the technique to living structures will be shown.

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