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Ruffa et al.

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[54] CAVITATION-RESISTANT SONAR ARRAY

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[57] ABSTRACT

A cavitation-resistant sonar array having reduced spacing between transducer elements is provided. The array has a series of transducer elements attached to an array fixture with spacing between elements being fixed at one-quarter wavelength or closer. Cavitation caused by this close spacing is eliminated 11 by replacing the water spaces between elements with a rho-c rubber which matches the acoustic impedance, z , of water, that is $z=pc$. The rho-c material is bonded to element to prevent loss of contact between the element and the spacer. A processing computation correcting signal data is provided to account for any differences in the speed of sound, c , in the rho-c material when compared to the speed of sound in water.

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[52] U.S. Cl. **181/108**; 181/110

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[56] References Cited

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15 Claims, 3 Drawing Sheets

