

Title (en)
Broadband phased array transducer design with frequency controlled two dimension capability and methods for manufacture thereof.

Title (de)
Breitbandige phasengesteuerte Gruppenwandlerentwurf mit frekuenzkontrollierte Zwei-dimensionale Möglichkeit und Verfahren zu ihrer Produktion.

Title (fr)
Conception d'un réseau d'antennes à commande de phase ayant des possibilités à deux dimensions contrôlé par fréquence et procédé pour sa production.

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Abstract (en)
There is provided a transducer array with a plurality of piezoelectric elements having a minimum and maximum thickness. In one embodiment, the maximum thickness is less than or equal to 140 percent of the minimum thickness. In an alternate embodiment, the maximum thickness is greater than 140 percent of the minimum thickness and the transducer array is capable of simulating the excitation of a wider aperture twodimensional transducer array. One or more matching layers may be used to further increase bandwidth performance. In addition, a two crystal transducer element as well as a composite transducer structure may be formed using the principles of this invention.

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IPC 8 full level
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