

1.3.7. INVESTIGATION OF 2D MATRIX ARRAY POSSIBILITIES, CHALLENGES TO BE SOLVED FOR THEIR DESIGN AND CHARACTERISATION

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Linear-array probes are now used extensively in industry, providing tremendous improvements in resolution while reducing inspection times.

However, steering capabilities of these probes are limited to one dimension, while 2D matrix array probes have the possibility to steer and focus the beam in three dimensions giving more flexibility and capabilities.

The design of this type of probe involves several technical challenges linked to the elements size and density, structural design of array elements and wiring. Probe characterisation is also a key point requiring specific technic and methods. Advances in matrix arrays design and characterisation are discussed, several examples of probes are presented, for each probe performances obtained will be discussed.