

### **1.3.29. APPLICATION OF 2D ARRAYS FOR ULTRASONIC TUBE INSPECTION**

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The client demands in terms of ultrasonic inspection on pipes are going more and more in the direction of the detection of flaws with various orientations. The phased array technology allowed during the few last years an evolution in the ultrasonic inspection with an increase of flexibility. The linear phased array transducers allows for example the inspection of flaws with a direction near to the one researched without any mechanical movement of the transducer.

The two dimensional phased array transducers let now the possibility to work in the whole space since it was limited to a plan with the previous ones. With a same position of the matrix transducer, it was demonstrated that the totality of the defect orientation were detectable.

The capacity of such a transducer to product a beam controllable in the space offers then increased possibilities for the tube inspection and allows an important diversity in the inspections with no mechanical setting of the transducer.