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ABSTRACT

Two types of probes were produced using FDM printing with ABS plus material, namely the angled beam probe and the focused immersion probe. New methods and considerations are used to obtain suitable calculations of the designs of the probes before fabrication using 3D printing.

We design the lens followed by 3D printing. The curvature produced is as design. The testing of the lens verify the lens is functioning as intended. Currently there is nothing on the market. 3D printing will have better control of parameters. Currently one cannot buy a probe/lens made of 3D printing technique. We resolve the problem of penetration depth and optimise the material ABS readily for testing. Normally the specific frequency of ABS is only 0.5 MHZ but now we can optimise up to 4 to 5 MHz. We have more accurate control of the curvature and control of reproducibility.

Fig. 12