

## **Imaging Focused Ultrasound Pulses in Superfluid $^4\text{He}$**

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Focusing of sound pulses emitted by an hemispherical piezo-electric transducer in liquid  $^4\text{He}$  at 1.1 K and 24 bar is studied in detail. Time variations of the density map are recorded by using an optical interferometric method. Numerical integration of elastic wave equations by a finite difference scheme is used for comparison. A good agreement is found between both density maps. The amplification factor from the transducer surface to the focus is deduced. Second-harmonic amplitude generated by nonlinearities near focal point is also recorded.