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Propagation of Ultrasound Waves inside a Supersonic Jet[1]
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— We use a Rayleigh scattering technique to detect density fluctuations in a supersonic air jet. The technique gives the spatial Fourier transform of the density fluctuations for a wave vector given by the experimental set-up. The method works as a nonintrusive microphone that can measure inside the flow. We measure at different locations inside and outside the flow to determine the emission pattern. We can determine the propagation inside the flow, the diffraction through the mixing layer and the propagation outside the jet.

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