



Figure 1



Figure 2

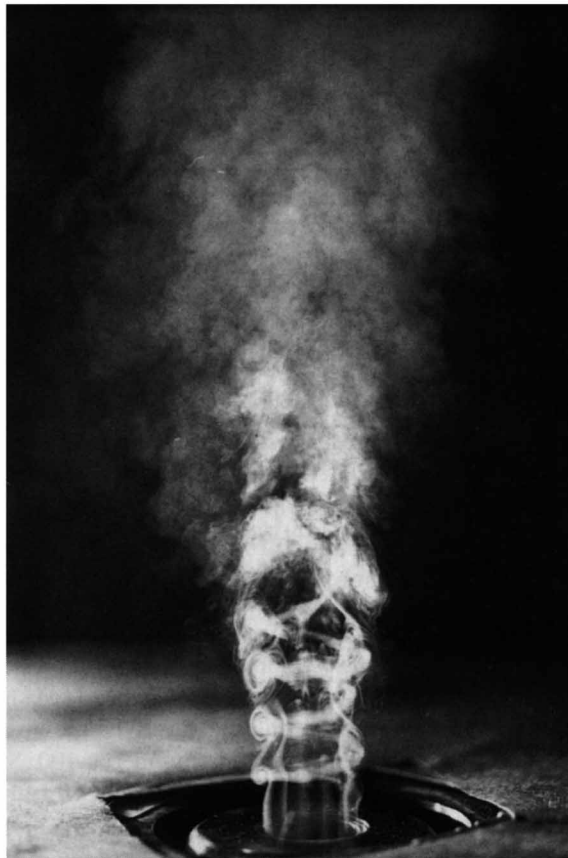


Figure 3

HELICAL MODES IN AN ACOUSTICALLY EXCITED ROUND AIR JET

Submitted by C. R. Koch, M. G. Mungal, W. C. Reynolds, and J. D. Powell

(Stanford University)

The above images represent a round air jet forced by four speakers, which surround the jet exit. Each speaker is 90° out of phase with the adjacent speaker and the input signal is a sine wave. The Reynolds number based on jet exit diameter is 10 000 and smoke is injected into the boundary layer for the flow visualization. The Strouhal number is based on the jet exit diameter d and is defined as $St_{orb} = f_{orb} d / U$. Figures 1–3 are the view of the jet with St_{orb} of 0.45, 0.8, and 1.0, respectively.