Figure 1

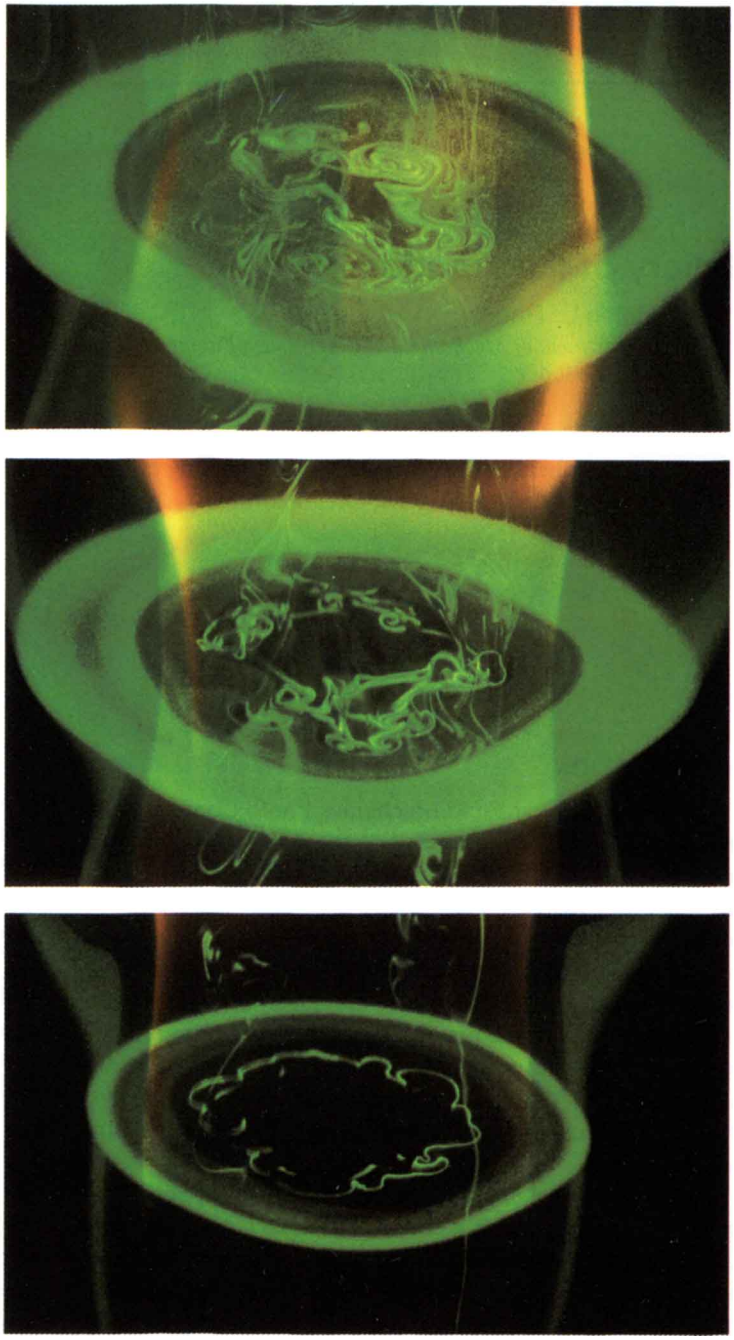

Figure 2

AZIMUTHAL INSTABILITIES IN A JET FLAME

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A free methane jet diffusion flame, stabilized on a 22.5 mm diam tube with Re = 5900, was visualized by the reactive Mie scattering (RMS) laser sheet lighting technique.[1] Figure 1 is a vertical view of the near turbulent flame. Figure 2 shows the azimuthal instabilities, viewed looking down on horizontal/vertical light sheets, at heights of 20, 60, and 120 mm. These views are positioned to reflect their heights in Fig. 1. The visible flame is yellow and the green is Mie scattered laser light from the TiO_2 particles that mark the air/water product and fuel/water product interfaces.

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