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PORTFOLIO

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Coherent structures of the turbulent round jet in different focal lengths

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Particle imaging system with laser sheet was employed to study the turbulent round jet, which was 20 mm in diameter. Mosquito-repellent incense smoke was used as tracer particles. The evolving of the coherent vortex structures at the same experimental condition, Re = 6,230, is visualized in different focal lengths, as shown in Fig. 1. The forming and the breaking up of the large-scale vortex structures could be snapped in the figure. Also, with the change of focal length, the initial segment of turbulence, the transition section and the fully developed turbulent region could be observed clearly. In addition, we have obtained lots of other visual images and valuable data that can be useful for associated engineering applications and numerical simulation research.

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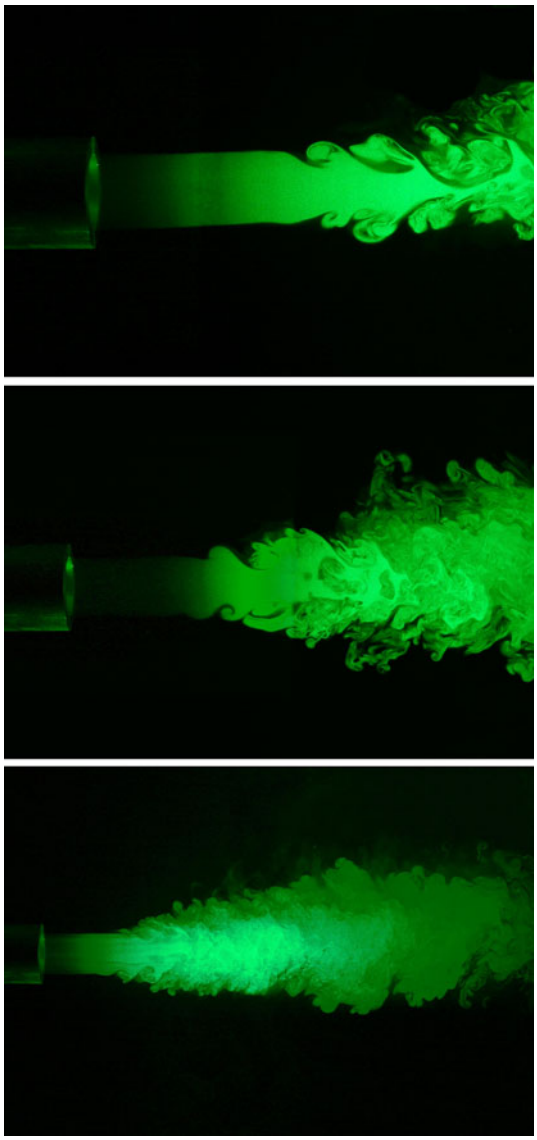

Fig. 1 The evolving of the coherent vortex structures in different visual angles at Re = 6,230