

Christopher McFadden

MCEN 4151-001

Team Assignment #2

Collaborators: Chad Sloan, Steven Li, and Will Tse

11/12/18

## Vortex Vapor Rings

The purpose of this experiment was to capture the vortex flow of vapor rings. We tried two different forms of ring generation including the use of a machine called a 'Zero Blaster' and orally produced rings. The orally produced rings were larger and more dense than the machine produced rings. However, the Zero Blaster was easier to aim and direct the rings into the focal plane of the camera. Additionally, the Zero Blaster has a blue backlight that helped illuminate the rings and added color.

The experiment was set up with a black fabric backdrop, the Zero Blaster at a 30 degree angle pointed toward the camera, and the camera approximately 24 inches from the ring path. We first placed a finger at the desired length away from the fabric, set the manual focus, and then directed the vapor rings into the path of focus to capture them. The rings were approximately 3-4 inches in diameter and move relatively quickly across the frame so it was difficult to capture. In order to manage motion blur, we lowered the aperture and added additional lighting from below in the form of camera phone lights.

While I manned the Zero Blaster and tried to locate the rings into the focal plane, Chad and Steven captured the photos. I chose this photo specifically because I liked how the Zero Blaster's light illuminated the rings and how there are multiple rings within this image. Consequently, I didn't have to do much post processing or color correcting. I increased the contrast and brought up the highlights.