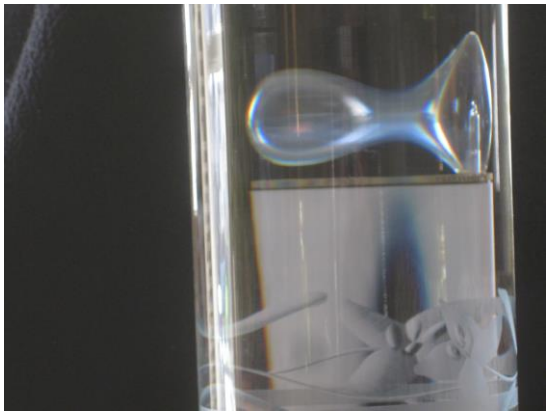
SOCIETY OF PHYSICS STUDENTS (SPS) MEETING

Imaging through cylinders: Virtual caustics, rainbow glare points, and image fragmentation

Dr. James Lock (*Professor Emeritus*, Physics)

Abstract: Many water bubbles often form on the inside surface of a water-filled cylinder, such as a glass vase. Although the water bubbles near the cylinder centerline appear normal, the bubbles near the edges appear horizontally elongated, are joined together in pairs, and take on color (Fig.1). Similarly, if a large object is placed just behind the water-filled cylinder and is viewed through it, the observer sees three distorted images of the object. The center image joins onto the left or right image as the observer moves his head back and forth (Fig.2).

The explanation of these two related observations relies on virtual transmission caustics, transmission rainbow glare spots, and a bit of topology thrown in.



WHERE

SR – 151

WHEN

11:30 – 12:20

Thursday, April 4th, 2019