

Measurement Sheet

Lab #2: Holography

MIT Nanomaker_Spring 2013

Experiment #1: Holography

Please follow the instruction to make a hologram and describe the steps in detail.

1) Exposure:

2) Developing (Developer and Bleach):

3) Drying (Wetting solution):

Experiment #2: Diffraction

Waves move spread out in many directions. The spreading out of waves is called diffraction. They spread out, or diffract when they pass through an opening or gap. Please describe how the size of opening would change the diffraction angle.

Experiment #3: Interference

Constructive and destructive interferences happen when two waves collide. This produces bright and dark spots. You are given two pieces of transparency with patterns on them. Place one on the top of the other. Please describe how the angle between two pieces of transparency influences the interference fringes.

If a hologram is made using 500-nm light and then viewed with 600-nm light, how will the images look compared to those observed when viewed with 500-nm light? Explain.

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