

Name :

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## "Nobel-prize physics in ..."

### Short Test 5

1. The characteristic precision in holographic (optical) metrology:

- a. 5.0  $\mu\text{m}$                       b. 1.0  $\mu\text{m}$                       c. 0.5  $\mu\text{m}$                       d. 0.1  $\mu\text{m}$                       e. none of them

2. For the exposure of a white-light hologram the reference beam was a plane wave and the object beam was a converging beam. The common optical axis of the beams was perpendicular to the holographic plate.

- a. The hologram is a simple converging lens.  
b. The hologram is a simple diverging lens.  
c. The hologram cannot be used as a lens.  
d. The hologram behaves as a diverging lens and as a converging lens, too.  
e. None of them.

3. The holographic metrology can not be used to:

- a. determine the structure of an object with reflecting surface                      b. comparing the shape of two object                      c. contouring a 3D object                      d. 3D shape measurement                      e. none of them

4. The exposure of a hologram is required:

- a. a holographic plate  
b. an objective (lens system) to project the object wave  
c. two coherent waves and a recording material  
d. laser beam  
e. none of them

5. To exposure a digital hologram:

- a. we need two lasers                      b. photopolymer holographic plate                      c. an in-line arrangement                      d. developer s                      e. none of them