Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_\_\_

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1. A double-slit interference equipment is performed with a blue-green light from an argon gas laser (lasers will be discussed further in Section 3). The separation between the slits is 0.50 mm and the first –order maximum of the interference pattern is at angle of 0.059° from the center of the pattern. What is the wavelength of the argon laser light?
2. Light falls on a double slit with slit separation of 2.2 x 10-6 m, and the first bright fringe is seen at an angle of 16.5° relative to the central maximum. Find the wavelength of the light.

1. A pair of narrow parallel slits separated by a distance of 0.250 mm is illuminated by the green component from a mercury vapor lamp (λ = 546.1 nm). Calculate the angle from the central maximum to the first bright fringe on either side of the central maximum.
2. Using the data from item 2, determine the angle between the central maximum and the second dark fringe in the interference pattern.