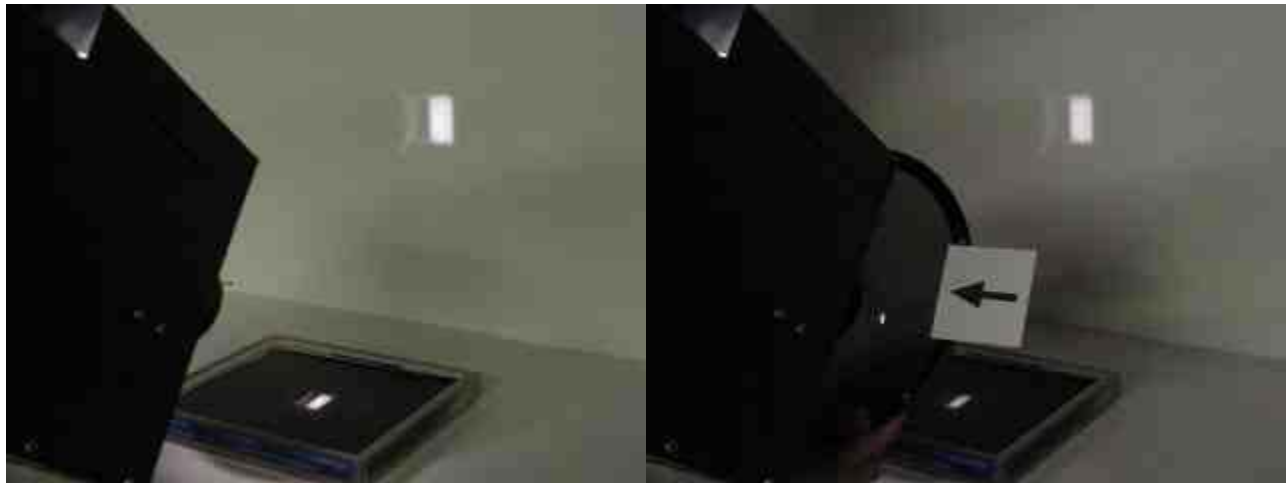


Question #233

A collimated beam of light originates in the black box, and reflects off a water surface onto the white screen as seen in the photograph at the left below. Note that the water is in a very shallow plastic tank with a piece of black paper on the bottom to prevent spurious reflections from the bottom of the tank. The angle at which the light strikes the water surface is set to Brewster's angle, where the angle between the reflected and the refracted rays is 90° .

In the photograph at the right below a polarizing sheet has been inserted in the light beam between the source and the reflecting water surface. The polarization of light passing through the polarizing sheet is indicated by the arrows.



Now suppose that the polarizing sheet is rotated 90° , from horizontal to vertical. What will happen to the intensity of the light on the screen?

When the polaroid is rotated by 90° the intensity of the light will:

- (a) increase.
- (b) decrease noticeably.
- (c) decrease to zero.
- (d) remain nearly the same.

Click here for [Answer #233](#) after December 5, 2005.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).