

Question #205

The words "GREEN TOMATO" are printed vertically in capitalized block letters on a piece of paper. The word "GREEN" is printed in green while "TOMATO" is printed in red, as seen in the picture at the left. When viewed through a vertical glass rod whose diameter is somewhat greater than the width of the letters, the word "GREEN" is inverted while the word "TOMATO" is not, as seen in the picture at the right.



The question this week involves what causes this very unusual and peculiar phenomenon. Three possibilities immediately come to mind: dispersion between the red and green light in the rod, a possible difference between the material in the rod in front of the red letters and the green letters, leading to different dispersion, and polarization. Or there may be another reason.

When the lettering is viewed through the rod, the peculiar optical properties are due to:

- (a) dispersion of the colors by the rod.
- (b) differences in the rod in front of the red and the green letters.
- (c) polarization.
- (d) other.

Click here for [Answer #205](#) after January 24, 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](#).