

Effect of Target Velocity in a Frontal Plane on Binocular Spatial Localization at Photopic Retinal Illuminance Levels*

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(Received June 1, 1959)

Binocular settings of equidistance have been obtained in a two-rod test apparatus that provides real-depth cues. The magnitude of the localization error for a black vertical rod which oscillates in a given frontal plane has been studied as a function of target velocity at each of three specified photopic levels of binocular retinal illuminance.

The direction of the localization error was opposite for the two observers used. For both observers, however, the absolute magnitude of the localization errors progressively increased as target velocity was increased at each of the three retinal illuminance levels.

Also, retinal illuminance level has an effect on spatial localization. For both observers, the oscillating rod was localized at increasing distances from the eyes as level of retinal illuminance was increased at a given target velocity.

These new data are discussed in relation to comparable data obtained in earlier experiments on depth settings for stationary targets and on depth settings for oscillating targets viewed under conditions of unequal binocular retinal illuminance (Pulfrich stereophenomenon).