

Abstract Submitted
for the OSF05 Meeting of
The American Physical Society

The appearance, apparent speed, and removal of optical effects for relativistically moving objects¹ R.J. DEISSLER, Cleveland State University — Since various parts of an object are different distances from an observer, and light takes a finite time to reach the observer, the appearance of a relativistically moving object will be very different from that given by the Lorentz contraction. Therefore, when teaching the subject of special relativity, it is important to stress that *measurement* and *observation* are the appropriate words to use in describing length contraction – **not** “see” and “appear.” I derive equations that can be applied to a photographic image so that the Lorentz contraction can still be observed. I give equations that quantify the apparent deformation of the object and give the apparent speed of the object as a function of time. I also derive equations that can be applied to photographic images to show how a relativistically moving image will appear and apply them to photographic images. For contact and other information please visit <http://deissler.us>.

¹R.J.Deissler, Am. J. Phys. **73**, 663 (2005).

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Date submitted: 26 Sep 2005

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